OCTOBER 15, 1955

MODERN

The Journal of Diagnosis and Treatment

MFDICINE



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THE MAN ON THE COVER is Dr. Samuel Bellet of Philadelphia, Professor of Clinical Cardiology at the Graduate School of Medicine of the University of Pennsylvania and Director of the Division of Cardiovascular Disease at the Graduate Hospital of the University of Pennsylvania. Dr. Bellet is a member of the American College of Physicians and is president of the Heart Association of Southeastern Pennsylvania. For the last five years, Dr. Bellet has been associate editor of Circulation. He has published 110 articles on cardiovascular disease and has written two books. Exercises In Electrocardiography and Clinical Disorders of the Heart Beat. Dr. Bellet is coauthor of the report on page 103, "Treatment of Cardiac Arrest."



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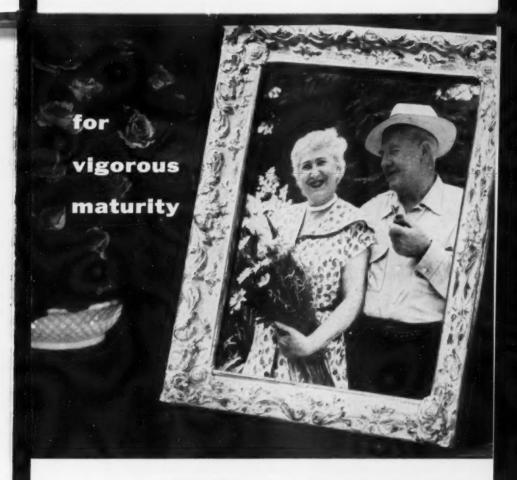
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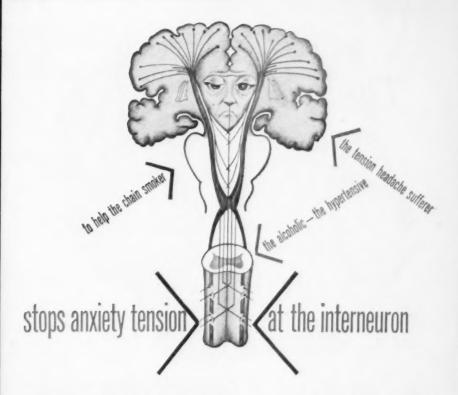
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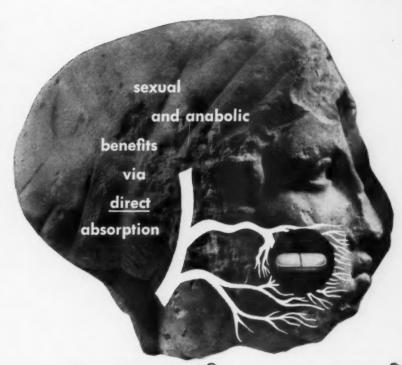
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Dear Reader:

A word frequently encountered in medical articles is "armamentarium." It is usually being added to. This additive process has been going on since the time of Hippocrates. Since few authors ever suggest abandoning any of the items in the armamentarium, an inventory would be staggering. Actually, of course, when a more effective agent is developed, the less effective is relegated to limbo. Little fanfare accompanies the demise of these casualties to progress. The world is for the living.

On pages 10 and 12 of this issue appears a current inventory of today's armamentarium, the Therapeutic Index. It lists more than 100 products available to you—products that medical research has developed and that scientific and industrial ingenuity has standardized for manufacture in quantity. These products are described in the advertising pages of this issue. They are being used today. By knowing about them, you are in position to make informed judgments in selecting the particular therapies that offer the most for the patients under your care.

The editorial pages bring you the experiences of other physicians with many of these agents—the benefits to be expected, the hazards to be considered. The advertising pages bring you detailed information on the product itself—on availability, composition, and packaging. A reading of both gives you an integrated story of the therapeutic possibilities which may apply with benefit to your patients and your practice.

If you haven't already discovered the utility of the Therapeutic Index, we commend it to you. It immediately follows the Table of Contents in each issue. Many readers use it as a handy check-list of what's new.

The Editors



Tetracycline "... appears to be superior ... because it is more stable at room temperature, because it penetrates better into the cerebrospinal fluid and elsewhere, and because its administration is accompanied by less untoward effects."

Dowling, H. F.: Practitioner 174:611 (May) 1955.



Excellent therapeutic response

with Tetracyn°

the original tetracycline outstanding among modern broad-spectrum antibiotics discovered and identified by (Pfizer)

Tablets and Capsules, 50, 100 and 250 mg., Oral Suspension (chocolate flavored), Pediatric Drops (banana flavored), Intravenous, and convenient ophthalmic and topical forms.

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HERPES ZOSTER...

Even after 60, the prognosis is good when treated promptly* with

PROTAMIDE*

Protamide is a sterile colloidal solution prepared from animal gastric mucesa... denatured by an exclusive process to eliminate protein reaction... completely safe and virtually painless by intramuscular injection.

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BIOLOGICALS . PHARMACEUTICALS
WINDSON . DEVROIT 15, MICH. . LOS ANGELES

Clinical data on request

*Combes, F. C. & Canizares, O.: New York St. J. Med. 52:706, 1952.

Correspondence

Communications from the readers of Modern Medicine are always welcome. Address communications to The Editors, Modern Medicine, 84 South 10th St., Minneapolis 3, Minn.

An Erroneous "Not"

TO THE EDITORS: In my article, "Infections from Gram-Negative Bacilli," which appeared in *Modern Medicine* (Aug. 15, 1955, p. 74), a mistake has been made which should be corrected.

In the sentence on page 77 which reads, "Polymyxin B is the drug of choice in infections due to *Pseudomonas aeruginosa* and many strains of other gram-negative bacilli are not quite sensitive to this antibiotic," "not" was erroneously added. I was referring to the sensitivity to polymyxin B of most strains of *Aerobacter aerogenes* and many strains of *Escherichia coli* and related bacilli.

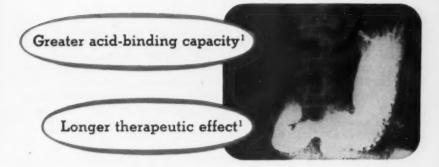
ELLARD M. YOW, M.D.

Houston

Jaundice and Thorazine

TO THE EDITORS: We have recently made an estimate of the incidence of jaundice associated with the use of Thorazine (chlorpromazine).

Our Science Information Department has analyzed the available data on patients who have received Thorazine in the United States, Canada, and England. In compiling these reports, patients were divided into 3 groups according to the



A comparative test shows conclusively that Maalox not only has more than double the acid-binding capacity of aluminum hydroxide, but also maintains its effectiveness twice as long.

Another investigator emphasizes that "Maalox is preferable to aluminum hydroxide gel because it is more palatable, better tolerated by the stomach, and does not cause constipation or undue astringency."²

Maalox-Rorer is a well-balanced suspension of magnesium aluminum hydroxide gel—smooth-textured and pleasant to taste. It enjoys unusual patient acceptance.

MAALOX

"... better suited for antacid therapy"2

SUPPLIED: Suspension, bottles of 12 fluid ounces. Tablets, bottles of 100.



Samples sent promptly on request
WILLIAM H. RORER, INC.

PHILADELPHIA 6, PA.

- Rossett, N.E., Rice, M.L. Ir.: An In Vitro Evaluation of the More Frequently Used Antocids, Gastroenterology 26:490 (1954).
- Marrison, Samuel: Magnesium Aluminum Hydroxide Gel in the Antacid Therapy of Peptic Ulcer, Am. J. Gastroenterology 22:309 (1954).

amount of Thorazine given and the duration of treatment.

In group 1 were 7,599 patients who received doses of 200 to 3,400 mg. a day for one to fourteen months. The average dose was around 500 mg. a day for one to three months. All but a few of these patients were in mental hospitals. Jaundice occurred in 1.4%.

Group 2 consisted of 1,091 patients seen in private practice who received 30 to 150 mg. a day for one week to several months. The incidence of jaundice was 0.8%.

In group 3 were 2,229 patients who received 25 to 300 mg. a day for less than five days. No jaundice occurred in this group.

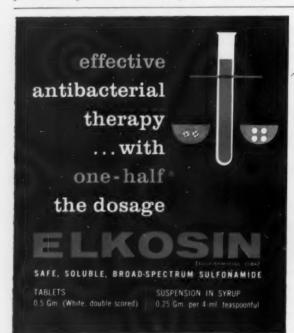
In almost all of the 116 cases of jaundice reported in the compiled

series, icterus appeared in the second or third week of therapy. In a few cases, it appeared in the first week or as late as the fifth week. In most cases, it was slight and cleared in two weeks. In only a few cases did the jaundice persist for one to several months.

The jaundice resembles that of an extrahepatic obstruction and is associated with malaise, fever, chills, and nausea. Liver biopsies and liver function tests indicate that it is not associated with parenchymal damage.

> WILLIAM L. LONG, M.D. Scientific Director MAURICE R. NANCE, M.D.

Director of Clinical Investigation Smith, Kline & French Laboratories Philadelphia



CIBA

SUMMIT, N. J.

*Elkosin maintains effective blood levels, both in urinary and systemic infections, with standard (i.e., sulfadiazine) dosage, or approximately half the dosage required with the other widely used single-soluble sulfonamide. This means extra safety, and greater convenience and economy.

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Hydrospray NASAL SUSPENSION

Anti-inflammatory—
Decongestant—Antibacterial

MAJOR ADVANTAGES: New synergistic anti-inflammatory, decongestant and antibacterial formula. High steroid content assures effective response.



Topically applied hydrocortisone in therapeutic concentrations has been shown to afford a significant degree of subjective and objective improvement in a high percentage of patients suffering from various types of rhinitis. Hydrospray provides Hydrocortone in a concentration of 0.1% plus a safe but potent decongestant, Propadrine, and a wide-spectrum antibiotic, Neomycin, with low sensitization potential. This combination provides a three-fold attack on the physiologic and pathologic manifestations of nasal allergies which results in a degree of relief that is often greater and achieved faster than when any one of these agents is employed alone.

[HYDROCORTONE®

INDICATIONS: Acute and chronic rhinitis, vasomotor rhinitis, perennial rhinitis and polyposis.

SUPPLIED: In squeezable plastic spray bottles containing 15 cc. Hydrospray, each cc. supplying I mg. of Hydrocortone, 15 mg. of Propadrine Hydrochloride and 5 mg. of Neomycin Sulfate (equivalent to 3.5 mg. of neomycin base).



Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

REFERENCE: 1. Silcox, L. E., A.M.A. Arch. Otolaryng. 60:431, Oct. 1954.



Prolonged Daytime Sedation in the Aged

.... "remarkably good" results obtained with small doses of Butisol Sodium!

In elderly patients suffering from such conditions as peptic ulcer, coronary occlusion, hyperthyroidism, congestive heart failure and hypertension—Dripps¹ found that 15 mg. doses of Butisol Sodium produced the type of prolonged, mild sedation desired.

Nervous tension and anxiety associated with these organic conditions were

well controlled with this small dosage

Of value in treating older patients is the fact that Butisol Sodium is not contraindicated in the presence of renal disease.

Butisol Sodium's action is "intermediate between the fast acting derivative, pentobarbital, and the long acting barbital and phenobarbital."

BUTISOL SODIUM

BUTABARBITAL SODIUM, McNEIL

DOSAGE FORMS

Elixir Butisol Sodium, 0.2 Gm. (3 gr.) per fl. oz., green.

Tablets, 15 mg. (14 gr.); lavender.

Tablon, 30 mg. (1/4 gr.), groon.

Tableta 50 mg (% m.), comm

Tablets, 0.1 Gm. (11/2 pr.), pisk.

Coppelin, 0.1 Gip. (11/2 gr.), Invended

EW: Butisol R-A (Repeat Action Tablets) 30 mg.

15 mg. for immediate release and
15 mg. in coated core (or deleted

ELIXIR BUTISOL SODIUM

Its bright, green color and refreshing flavor appeal to all; an excellent prescription vehicle. Clinical samples on request.

1. Drippe, R. D. Selective Utilization of Burbsturaies, J.A.M.A., 139:150 (Jan. 13) 1949.

2. Council on Pharmacy & Chemistry: New and Nonofficial Remedies, 1955, Philadelphia, I. E. Lippinson Co., 1955, p. 329.

McNEIL

LABORATORIES, INC

CORRESPONDENCE

Not a Mendelian Dominant

TO THE EDITORS: In the July 1, 1955 issue of Modern Medicine (p. 33), Dr. Charles Chesner takes exception to a statement dealing with the Rh factor: "If one or both are heterozygous-with parents some Rh-positive factors—these factors are transmitted to the children according to mendelian law." There is nothing wrong with this sentence, but in his remarks Dr. Chesner incorrectly states that the Rh-negative factor is recessive. This is a misconception that is widespread.

The Rh factor Rh_o (D) bears the same relationship to the negative factor Hr_o (d) that Rh' (C) has to Hr' (c). An antiserum for each of these latter two cell types is available from companies dealing in testing sera. Anti-C will agglutinate both homozygous CC cells and the heterozygous Cc variety. Anti-c will clump cells of both the genotypes Cc and cc.

If we had a potent anti-Hr₀ (anti-d) serum available, it would react with all Rh-negative cells and the heterozygous Rh-positive cells. On three occasions, investigators have found anti-Rh-negative (anti-Hr₀ or anti-d) serum, but in each case the preparation was weak and soon lost potency.

To continue the comparison with the Cc factors, if the C in heterozygous Cc cells suppressed clumping of these cells by anti-c serum, it would be proper to say that the

(Continued on page 30)

round-the-clock protection for asthmatic patients AMIINET Bischoff the suppository swith the unique nonreactive base* terminates acute attacks—often in 20 minutes prevents recurrences—prophylactic half-strength dose *melts at body temperature Supplied: Boxes of 12, full strength—aminophylline 0.5 Gm. (gr. 7½), sodium pentobarbital 0.1 Gm. (gr. 1½). Also available in half strength. AMES COMPANY, INC · ELKHART, INDIANA 5050



Centrine

Laboratory experiments show that Centrine is more effective than atropine in controlling gastrointestinal hypermotility -as manifest by superior reduction in the number, tone, amplitude and duration of peristaltic contractions; and it successfully relieves localized spasm. cf.2 It is 5 to 100 times more potent than other synthetic antispasmodic agents commonly used.

Its high index of anticholinergic effects, too, renders it particularly useful as adjunctive therapy for patients with gastric or duodenal ulcer-86% having achieved complete remission of symptoms in controlled clinical tests.2 Side effects were negligible in frequency or degree.2

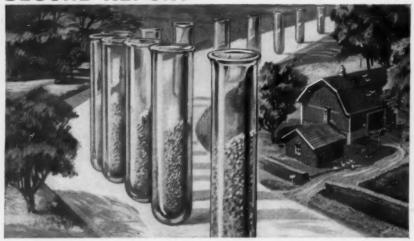
References: 1, J. Pharm. & Exp. Ther., 98:14, 1950.
2. Gastroenterology, 24:204, 1953.



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takion with Phanelinships (0.5 mg, with 18.8 mg, (5 pm) p Interior (0.8 mg) pm 19 drops)

SECOND REPORT



LECITHIN RESEARCH-AT THE BEND OF THE ROAD

The Therapeutic Usefulness of Lecithin - a natural phospholipid

Because lecithin, a natural, edible food constituent, is an excellent emulsifying agent its application in diseases characterized by disturbed fat absorption and metabolism is logical. Research has proved its value in facilitating intestinal absorption of fats and fat-soluble substances such as vitamin A.¹⁻⁵ For this reason it suggests itself as worthy of trial in treating underweight and steatorrheal diseases (sprue, celiac disease, etc.).

Encouraging results were also achieved in the management of psoriasis, together with dietary and topical measures, and in fatty livers. In the treatment of diabetes, lecithin together with vitamin E has reduced insulin requirements in certain patients. Research on its potentially useful role in the more complicated forms of deranged lipid and cholesterol metabolism—as encountered in essential hyperlipemia, idiopathic familial hypercholesteremia, xanthomatosis, diabetes, etc.—is now being actively conducted.

An excellent source is Glidden's "RG" Oil-free Soya Lecithin, a highly purified extract containing a minimum of 95% phospholipids. It is packed in a specially designed 8 oz container to maintain its purity and freshness and is available at your drugstore.

Dosage: Investigators of lecithin have used quantities from 7.5 to 30 grams daily in divided doses. (3 teaspoonfuls equal 7.5 grams.)

Administration: "RG" Lecithin is presented in palatable granules which may be taken plain, in milk, in orange juice or other citrus juices, or sprinkled on cereal.

Literature available on request.

Bibliography: 1. Adlersberg, D., and Sobotka, H.; J. Nutrition 25:255 (March) 1943. • 2. Adlersberg, D., and others: Gastroenterology 16:822 (May) 1948. • 3. Adlersberg, D.: New York J. Med. 44:606 (March 15) 1944. • 6. Adlersberg, D., and others: Am. J. Digest, Dis. 16:333 (Sept.) 1949. • 5. Augur, V.; Rollman, H. S., and Deuel, H. J., Jr.: J. Nutrition 33:177 (Feb.) 1947. • 6. Gross, P., and Kesten, M. B.; New York J. Med. 36:2503 (Nov. 15) 1950. • 7. Schettler, G.: Klin. Wchnschr. 30:627 (July) 1952. • 8. Dietrich, H. W.: South, M. J. 43:743 (Aug.) 1950.

GLIDDEN RG°LECITHIN

THE GLIDDEN COMPANY . CHEMURGY DIVISION

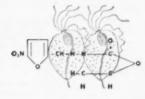
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Now...a new and <u>specific</u> drug for trichomonal vaginitis...



...contains Furoxone® (brand of furazolidone), an antimicrobial nitrofuran specific against trichomonal vaginitis. More than 300 nitrofurans were screened before discovery of this potent new trichomonacide.



- rapid relief of symptoms—usually in 2 or 3 days
- cures in 1 menstrual cycle
- low incidence of recurrence as proved by repeated microscopic examinations
- bactericidal against a wide range of grampositive and gram-negative organisms.

Tricofuron Vaginal Suppositories contain Furoxone 0.25% in a water-miscible base. Box of 12.

Tricofuron Vaginal Powder contains Furoxone 0.1% in a water-soluble powder base composed of lactose, dextrose and citric acid. Bottle of 30 Gm.

Both dosage forms are used concomitantly in treatment.

A full product report and patient instruction folders available on request.

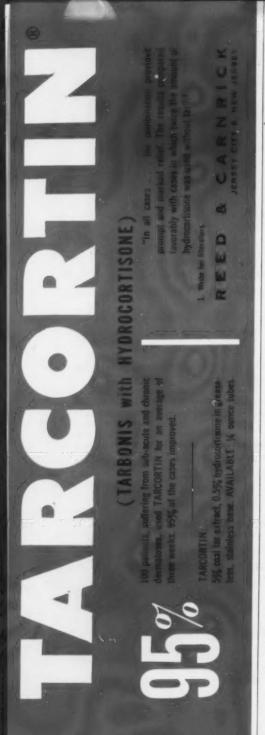




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NORWICH . NEW YORK

THE NITROFURANS - A UNIQUE CLASS OF ANTIMICROBIALS 0, HO PRODUCTS OF EATON RESEARCH



C factor is dominant to c, but this is not the case. We can only say that C and c are codominant, and the same is true of the Rh-positive and Rh-negative factors. Neither the Rh factor (Rh₀ or D) nor any other component of the Rh blood group system has been found to be dominant.

The Rh-negative factor is not a recessive one. In the case of the Lewis blood group system, one of the factors is said to show dominance but only at certain ages of the individual.

SHERMAN S. GARRETT, M.D. Champaign, Ill.

The disagreement hinges on the word "dominance," used by Dr. Chesner in its original and ordinary sense and by Dr. Garrett in its technically correct "postgraduate" form. terms "dominant" and "recessive" as used by the geneticist are merely conveniences to express one type of hereditary behavior contrasted with the other. No trait is absolutely recessive or dominant. The word "codominant" is unacceptable to many geneticists, however, because it implies equality which is never exactly true of two genes. Incomplete dominance indicates the same idea without attempting to specify the exact relationship between the gene partners.-Ed.

Excellent Condensation

TO THE EDITORS: I wish to thank the staff for the excellent condensation of my article "Re-evaluation of Conization of the Cervix" (Modern Medicine, June 15, 1955, p. 128) and also for the drawing which so well illustrated the advantages of the coning electrode which I designed.

M. C. HAWKINS, JR., M.D. Searcy, Ark.



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POLYETHYLENE TUBING **READY FOR USE!**

INTRAMEDIC Polyethylene Tubing PE-50. PE-90, PE-200 AND PE-190/512 10. 045-0.0. 065-12 INCHES ANIMAL TESTED Electron sterilized

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PYROGEN FREE

Here is Clay-Adams' latest contribution to modern medical technics! Securely and safely heatsealed in tough polyethylene envelopes—in the most wanted sizes: PE-50/S36 (36" length) for caudal and spinal analgesia; PE-90/S12 (12" length) for tube feeding in prematures, intravenous catheters; PE-190/S12 for exchange transfusion of newborns and intravenous therapy; PE-200/\$12 for arteriography, duodenal intubation and intravenous therapy. Both Tuohy and Adams adapters may be used with INTRAMEDIC Polyethylene Tubing.

STERILE INTRAMEDIC Polyethylene Tubing—animal tested—is available now at your local dealer. Ask him for prices and quantity discounts.

Order from your local dealer. He also stocks: 23 sizes of Intramedic Polyethylene Tubing (non-sterile) Gold Soul Slides & Cover Glasses • CRI Germicide Autoclips & Applier • Adams Thormometer Shaker Clay-Add



FOR SORE THROAT

Here is the *modern* prescription for nonfebrile sore throat. Wybiotic Troches combine three antibiotics—without penicillin—for broad local attack against the commonly mixed oral pathogens. Gram-negative, gram-positive therapy with no danger of sensitization or resistance to systemic antibiotics—spares them for more serious illness. Effective, palatable, safe.

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TROCHES

Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, 84 South Tenth Street, Minneapolis 3, Minnesota.

Sympathetic Ophthalmia

QUESTION: A patient had an uncomplicated extracapsular cataract extracted; a peripheral iridectomy was performed. Six weeks later, a needling was done of a fine, secondary membrane. A month after this the anterior chamber of the other eye, which also was cataractous, was seen to be abnormally deep but with normal tension. A chronic uveitis similar to that of sympathetic ophthalmia soon appeared. A cyclitic membrane developed in the operated eye which occluded the pupil and pulled the iris upward. Both eyes became quiescent in time, and the uveitis was arrested with systemic hydrocortisone therapy. Posterior synechiae are observed in the left eye, the pupil is moderately dilated, and the cataract is now mature. Should the iris be severed in the operated eye to create a pupillary space below the membrane?

M.D., Florida

ANSWER: By Consultant in Ophthalmology. This is probably sympathetic ophthalmia after cataract extraction. If both eyes are now quiescent, an iridotomy on the operated eye may obtain a clearer pupil below the membrane. A cataract extraction in the sympathetic eye would not be entirely futile, but an iridocapsulotomy should be done in the operated eye first.



FOR INDIVIDUALIZED CONTROL OF TENSIONS

Tensions are not continuous. They occur in peaks, arising from valleys of relative relaxation. With this in mind, Nidar was formulated for the individual patient.

When Nidar is taken in the morning and again in the early afternoon, the patient is neither jittery nor dopey. He is relaxed, able to meet situations calmly and alertly.

Each light green, scored Nidar tablet contains:

Secobarbital Sodium		3/8	gr.
Pentobarbital Sodium.		3/8	gr.
Butabarbital Sodium		1/8	gr.
Phenobarbital		16	gr.

Bottles of 100 and 1000.

NOTE: Nidar is also an excellent hypnotic.



NEWS!

Intramuscular VARIDASE*

ACUTE PURULENT FRONTAL SINUSITIS, UNILATERAL.

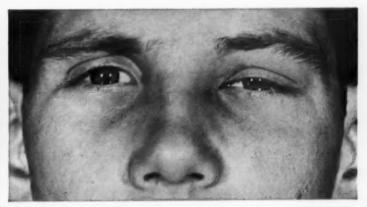


1. Appearance on admission

2. After 24 hours, 2 injections of VARIDASE have been given.



for control of inflammation



3. After 48 hours, 4 Varidase injections have been given.

4. Third hospital day, treatment ended.



Abnormal Menses

QUESTION: A 24-year-old married woman has not menstruated normally since one normal period at the age of 13. She is receiving thyroid now and has had progesterone, Prostigmin, stilbestrol, and Premarin previously. The uterus is retroverted but of normal size. What can be done to promote fertility?

M.D., New Mexico

ANSWER: By Consultant in Obstetrics. In secondary amenorrhea, constitutional disease must first be excluded. If cyclic therapy with estrogen and progesterone for three months fails to produce periodic bleeding and ovulation, x-ray stimulation of the pituitary gland and ovaries may be considered. However, the patient should be informed that genetic defects from

this type of therapy may occur in later generations. Experiments on animals have demonstrated such mutations but no abnormalities were observed in 3 generations of human beings.

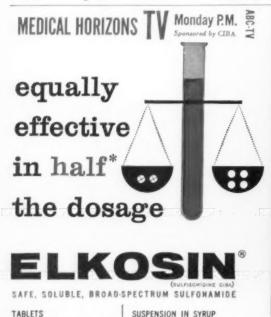
Pregnancy should be prevented during roentgen therapy.

Diabetic Xanthomatosis

QUESTION: What is the treatment for xanthoma diabeticorum?

M.D., California

ANSWER: By Consultant in Dermatology. The lesions of diabetic xanthomatosis usually subside with an appropriate low-fat diet and insulin therapy. Tendency to recur is common, however.



0.25 Gm. per 4-ml. teaspoonful

0.5 Gm. (White, double-scored)

*Elkosin maintains effective blood levels, both in urinary end systemic infections, with standard (i.e., sulfadianine) decays, or approximately half the decays required with the other widely used single-voluble sulfonamide. This means extra safety, and greater convenience and economy.



Shampaine's distinctive *"Integrated Design" is a superb combination of furniture beauty and functional superiority . . . for the utmost in eye-appeal, patient comfort and medical efficiency.



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Suggests ideal room arrangements. Shows how to place equipment for best use, smoothest traffic flow, greater efficiency and PROFITS.



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to the Sick-Tray

THERE'S anticipated pleasure when the patient sees an appetizing, colorful glass of wine on the table or tray—wine adds that touch of "elegance" which gives a psychological lift at a time when it is most needed.

And there are also well-authenticated physiological reasons to account for the valuable role of wine as a nutrient beverage for the convalescent and the aging patient:

Recent controlled research shows that just 2 or 3 oz. of a dry wine can markedly increase olfactory acuity, increase the desire for food (as in anorexia) and actually aid digestion.

The effect of wine on free and total gastric acidity has been found to differ markedly from that of plain alcohol. Because of the buffering action of its phosphates, organic acids and tannins, the action of wine is gentler and more prolonged.

Wine is also notable for other desirable vasodilating, diuretic, and relaxant properties, and helps to allay restlessness and irritability in the sick and elderly.

A little Port or Sherry at bedtime affords a valuable aid to normal sleep and may obviate the need for sedative medication.

Recent results of laboratory and clinical research on the medical attributes of wine have been condensed into a small brochure entitled "Uses of Wine in Medical Practice." A copy is available to you—at no expense by writing to: Wine Advisory Board, 717 Market Street, San Francisco 3, California. in arthritis and allied disorders...



nonhormonal anti-arthritic

BUTAZOLIDIN'

relieves pain . improves function . resolves inflammation

Employing the serum protein-polysaccharide ratio (PR) as an objective criterion of rheumatoid activity, it has again been shown that BUTAZOLIDIN "...produces more than a simple analgesic effect in rheumatoid arthritis."

Clinically, the potency of BUTAZOLIDIN is reflected in the finding that 57.6 per cent of patients with rheumatoid arthritis respond to the extent of "remission" or "major improvement."³

Long-term study has now shown that the failure rate with BUTAZOLIDIN in rheumatoid arthritis, and particularly in rheumatoid spondylitis, is significantly lower than with hormonal therapy.³

(1) Payne, R. W.; Shetlar, M. R.; Farr, C. H.; Hellbaum, A. A., and Ishmael, W. K.: J. Lab. & Clin. Med. 45:331, 1955. (2) Bunim, J. J.; Williams, R. R., and Black, R. L.: J. Chron. Dis. 1:168, 1955. (3) Holbrook, W. P.: M. Clin. North America 39:405, 1955.

BUTAZOLIDIN® (brand of phenylbutazone). Red coated tablets of 100 mg.

BUTAZOLIDIN being a potent therapeetic agent, physicians unfamiliar with its use are urged to send for literature before instituting therapy.

GEIGY PHARMACEUTICALS Division of Geigy Chemical Corporation
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41155 In Canada: Geigy Pharmaceuticals, Montreal



Industrial Foot Baths

QUESTION: Is the use of foot baths in the shower rooms of an industrial plant helpful in preventing athlete's foot?

M.D., Ohio

ANSWER: By Consultant in Dermatology. Medicated foot baths in shower rooms are generally accepted to be ineffective for prophylaxis of fungous infection of the feet. Peck and Schwarz of the United States Public Health Service conducted studies in 1945 and reported that culture from the surface of the shower room floors, soon after showers were taken by several hundred workers, showed no pathogenic fungi. The incidence of fungous-infected feet must be controlled chiefly by personal foot hygiene.

Sweating of the feet should be reduced by wearing of shoes that are properly ventilated and application of antiseptic foot powders.

Angioneurotic Edema

QUESTION: A 30-year-old woman has intermittent angioneurotic edema of the face, throat, legs, and various other parts of the body. The condition begins about a week before and lasts for a week after menstruation. What is the treatment for this condition?

M.D., Washington

ANSWER: By Consultant in Allergy. If antihistamines and sedation are ineffective, endocrine studies and possibly endocrine therapy are required.



36 MODERN MEDICINE, October 15, 1955

at long last

The Comprehensive Antispasmodic for both skeletal and associated smooth muscle spasm

EXPASMUS, a new combination of antispasmodics, plus a powerful analgesic—in single prescription form effectively reduces both skeletal and smooth muscle spasm, while affording more rapid release from pain.

though skeletal muscle pain-spasm often engenders secondary smooth muscle spasm, no single antispasmodic preparation free of belladonna, barbiturates or amphatamine has heretofore been formulated to treat both types of spasm. In this respect, Expasmus is unique as it combines the smooth muscle relaxant, dibenzyl succinate and the skeletal muscle relaxant, mephenesin with the powerful analgesic, salicylamide to provide safe, fast-acting and comprehensive therapy.

Description: Each tablet of Expasmus contains dibenzyl succinate, 125 mg.; mephenesin, 250 mg.; salicylamide, 100 mg. Packed in bottles of 100 tablets, on your prescription only.

Indications and dosage: For relaxation of skeletal and associated smooth muscle spasm; relief of arthritic and low back pain; as a mild non-barbiturate sedative and relaxant in tension—Average dose, two tablets every four hours. Maximum daily dose, twelve tablets.

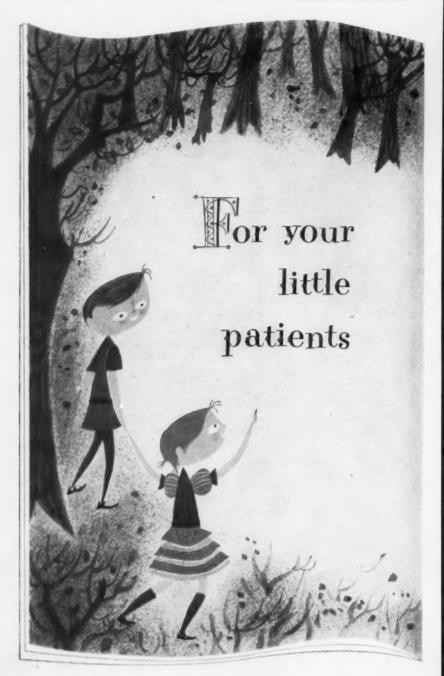
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Antibiotic therapy with the magical flavor of Fairyland? You have it—waiting for your prescription. Pediatric ERYTHROCIN Suspension invites easy administration. Tantalizing, cinnamon aroma and a sweet, candy-like taste. Youngsters like it . . . and even ask for more.

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Use Pediatric ERYTHROCIN when you want specific therapy against coccic infections. As you know, the very organisms most sensitive to ERYTHROCIN are staph-, strep- and pneumococci (even when they resist other antibiotics.)

And since it doesn't disturb intestinal flora, there's little chance of gastroenteral side effects. No allergic reactions, either, or need for vitamin supplementation. Pediatric ERYTHROCIN Stearate Oral Suspension in 2-fl.oz. pour-lip bottles.

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Oral Suspension



*T.M. Reg. U.S. Pat. Off.

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

Evidence—Presumption

PROBLEM: When an employee applied for increased workmen's compensation on the ground of deteriorated physical condition, the employer's physicians examined the employee. Since the employer did not call the doctors as witnesses on the hearing of the application, could it be presumed that their testimony would have supported the employee's claim?

COURT'S ANSWER: Yes.

So decided the Georgia Court of Appeals, Division 1 (85 S.E. 2d 441).

Compensation—Silicosis

PROBLEM: An industrial commission decided that a foundry worker's condition diagnosed as silicosis was not disabling. Should the decision be reversed by the courts since the medical opinions conflicted?

COURT'S ANSWER: No.

The Illinois Supreme Court mentioned that the Commission had superior opportunity to weigh conflicting opinions of witnesses since demeanor while testifying can be observed. The court also noted that existence of silicosis does not imply that it is disabling (126 N.E. 2d 211).

To produce an increased flow of natural, whole bile

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(diethanolamine salt of the mono-d-camphoric ester of p-tolymethyl-carbinol)



A true choleretic

- ... acts directly on the hepatic cells
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Indications:

Functional disturbances of the liver
Diseases of the biliary tract
Cholecystitis and cholelithiasis.
Postcholecystectomy syndrome
Reversible diseases of the liver parenchyma
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Average dose:

One 75 mg. tablet t.i.d. until the desired increase in bile secretion is attained. Maintenance dosage, 1 or 2 tablets daily.

Send for literature and clinical supply

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FORENSIC MEDICINE

Bills-Implied Promises

PROBLEM: Three persons were seriiously injured in an automobile accident. Within two hours after the accident, the agent of the insurance company that held the accident liability policy of the car owner told the physicians to do everything they could for the patients, because the injuries for which the company might be liable would be greater unless good medical care was given. During the next two years, the claim agent asked for and was given bills for accrued charges. The injured persons lost their suit against the car owner, whereby the insurer was freed from liability. Were the doctors entitled to judgment against the insurance company for the value of their services?

COURT'S ANSWER: Yes.

In upholding judgment in the doctors' favor for \$4,212.70, the

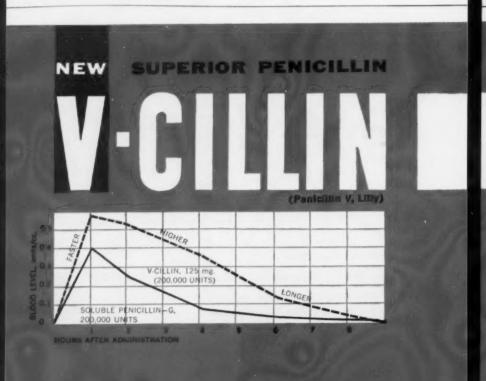
Kentucky Court of Appeals decided that the claim agent's acts amounted to an implied promise to pay the physicians' reasonable charges and that the doctors rendered their services on the faith of the promise (280 S.W. 2d 537).

Damages-Amount

PROBLEM: Was \$18,000 a fair award of damages for a person who had a fractured left femur; slight leg shortening; and fractures of the left patella, ribs, and first, second, and third lumbar vertebrae, if the leg and back were permanently impaired?

COURT'S ANSWER: Yes.

So decided the New York Court of Claims (139 N.Y. Supp. 2d 585).



free from premenstrual tension

Now she can smile and be gay on every day

She can hardly believe that she's the same person who used to be a jumble of conflicting emotions, uncontrolled temper, hypersensitive attitudes, and peevish disposition for many dismal days each month.

With M-Minus 5 the characteristic emotional impact of the premenstrual tension syndrome can be averted in 82% of cases.

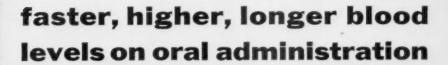
1. Vainder, M.: Indus. Med. & Surg., 22:183, 1953

Each tablet contains:
Pamabrom 50 mg.
Acetophenetidin 100 mg.

M-Minus 5

Premenstrual Diuretic and Analgesic for Treatment of Premenstrual Tension and Dysmenorrhea

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A totally different penicillin—not a modification of penicillin—G. Unlike all other penicillins, it has a unique chemical composition which assures stability in the presence of acid. Therefore, there is no loss of potency due to stomach acidity. 'V-Cillin' produces higher blood levels and a longer duration of therapeutic concentrations. It is rapidly absorbed from the duodenum.

dosage: 1 or 2 pulvules t.i.d.

supplied: Attractive green-and-gray pulvules of 125 mg. (200,000 units), in bottles of 50.



Making the Diabetic Diet fit...

Your patient may feel an outsider

both at home and away from home when diabetes upsets his eating habits. Here are some diet "do's" to help fit the menus to his way of life.

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Try to adapt favorite recipes to the diet. Then build the rest of the diet prescription around them.

Suggest that measured portions be served in dishes that fit the serving.

Where possible, let your patient use a food exchange list for variety.

Away from home-

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Allow extra carbohydrate for extra activity. And suggest hard candies as a precaution against insulin reaction.

If possible, plan for low-calorie wafers when others nibble canapés or chocolates.

A diet that fits in smoothly with your patient's family and social life means you'll have his fullest co-operation, and he'll lead a happier life.





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Milk is likely to give
prompt control of
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And...it provides a
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which cause the diarrheas often associated
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In addition, Meyenberg Evaporated
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milk in fat, protein,
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In economical, 14-oz. enamel-lined vacuum-packed cans. Write for literature.

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FORENSIC MEDICINE

Cancer—Traumatic Cause

PROBLEM: A workman fell down an unlighted stairway and struck his breast against a metal object. Did a court decide that the accident caused or aggravated a malignant tumor?

COURT'S ANSWER: No.

The New York Supreme Court, Trial Term, Bronx County, said that since the medical profession was not agreed on the connection between tumor and trauma, the court could not state a conclusion.

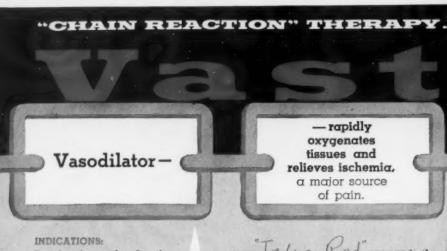
The surgeon who excised the tumor four months after trauma and the pathologist testified that trauma could not cause breast cancer and that the size of the tumor showed that cancer had developed before the trauma. However, the pathologist said that trauma could accelerate the metastasis. A doctor stated that cancer may be dormant, but he cited no authority. Another doctor said that only excess female sex hormones cause cancer (142 N.Y. Supp. 2d 760).

Fees-Illegal Practice

PROBLEM; An Alabama statute specifies that a physician cannot force payment of fees unless his medical registration certificate is recorded. When a doctor whose, certificate was not recorded took a note to cover a fee and transferred the note to a third person, could the transferee force payment?

COURT'S ANSWER: No.

So decided the Alabama Court of Appeals (76 So. 484).



Peripheral vascular disorders Meniere's syndrome Bursitis Tension headache Neuralgia THE Infra Red EFFECT is the pronounced flush of the blush areas—evidence to your patients of VASTRAN'S therapeutic action. If desired, flushing can be avoided by prescribing VASTRAN after meals.

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and provide added patient comfort

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With the aid of APP pads it has been found possible to keep the skin healthy with one-half the nursing care usually needed.

Paralyzed, comatose and severely debilitated patients are candidates for the pads, as are patients to whom routine turning is painful, or those in continuous traction or casts.

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Intramuscular

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up to 300% greater absorption 100% higher liver storage 67% less loss through fecal excretion

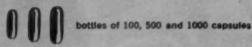
	only $\frac{1}{2}$ to $\frac{1}{10}$	as much aqueous vitamin A is needed
	aqueous vitamin A**	ordinary oily vitamin A
acne	25,000 to 50,000 units daily	up to 500,000 units daily
eczema chronic	25,000 to 50,000 units daily	50,000 to 500,000 units daily
excessively dry skin	60,000 to 100,000 units daily	100,000 to 300,000 units daily

only 1/2 to 1/3 the treatment time is required for aqueous vitamin A

aquasol A capsules

three separate high potencies of natural vitamin A per capsule . . . in water-soluble form:

25,000 U. S. P. mits 100,000 U. S. P. units 50.000 U. S. P. units



Malpractice—Contract Breach

PROBLEM: In New York, malpractice suits must be started within two years after treatment, but the time limit on breach of contract suits is six years. More than two years after treatment, a patient alleged that a doctor broke a contract to remove a growth by fulguration. No damages for pain and suffering, such as might be claimed in a malpractice suit, were sought. It was alleged that, in violation of his contract, defendant operated in an unworkmanlike, unprofessional, and unskilled manner, necessitating a major operation that the doctor had assured would not be involved. Was this essentially a malpractice suit and therefore outlawed by the time-limit statute?

COURT'S ANSWER: No.

By a five-to-two vote the judges of the New York Court of Appeals

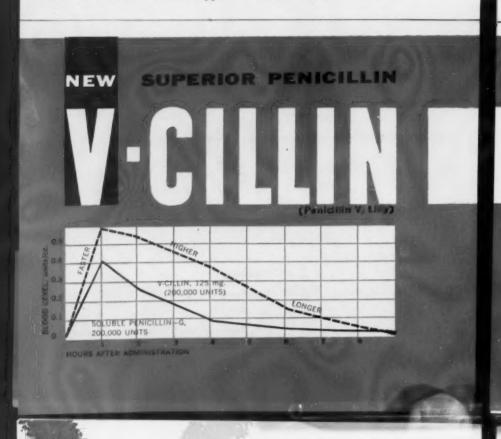
decided that the complaint stated good grounds for collection of damages on a theory of broken contract. The chief judge said that, since the practice of medicine is not an exact science, it may be unusual for a physician to enter into a special contract to cure (308 N.Y. 543, 127 N.E. 2d 330).

Pregnancy-Not Ailment

PROBLEM: A health benefit policy specified that it could not be reinstated after lapse for nonpayment of dues unless the insured was in good health. Did the clause apply to pregnancy?

COURT'S ANSWER: No.

The Florida Supreme Court made the decision (80 So. 516).



FORENSIC MEDICINE

Malpractice—Carcinoma

PROBLEM: A patient with a malignant growth on his lip for two months was distrustful of surgery but approved of glyoxylide injections. Afternine months, the cancer had spread and the doctor discharged the patient without resorting to or recommending roentgen-ray or radium therapy or surgery. The patient then submitted to surgery by another doctor. Was the first doctor liable for malpractice?

COURT'S ANSWER: Yes.

The Florida Supreme Court at first set aside the jury's award of \$65,000 damages against the doctor by a vote of 5 to 2 on the ground that the medical testimony was conflicting. But on a rehearing of arguments, the court, by a vote of 4 to 3, affirmed the award, stat-

ing that the jury could conclude that the doctor was negligent in continuing his treatment for so long despite the steadily worsening condition. The patient's submission to surgery showed that he was not a recalcitrant (81 So. 2d 658).

Testimony—Medical Books

PROBLEM: Medical testimony regarding whether traumatic injury to neck and scalp could cause Parkinson's disease was conflicting. Was an affirmative opinion of a neurologist which was based on unidentified textbooks and experience receivable?

COURT'S ANSWER: Yes.

The California District Court of Appeal, Second District, made the decision (282 Pac. 2d 1032).

faster, higher, longer blood levels on oral administration

A totally different penicillin—not a modification of penicillin—G. Unlike all other penicillins, it has a unique chemical composition which assures stability in the presence of acid. Therefore, there is no loss of potency due to stomach acidity. "V-Cillin" produces higher blood-levels and a longer duration of therepeutic concentrations. It is rapidly absorbed from the duodenum.

dosage: 1 or 2 pulvules t.i.d.

supplied: Attractive green-and-gray pulvules of 125 mg. (200,000 units), in bottles of 50.





2 COMPLEMENTARY ACTIONS

2 WAY CONTROL

- In urinary tract infections -

NOW . . . both pain and infection
are brought under quick, safe
control at their source by the
speedy, dual-action of the
component drugs in—



RELIEVES LOCAL PAIN BY LOCAL ACTION

Phenylazo-diamino-pyridine HC1—enjoys a long clinical history as a local (not unwanted systemic) analgesic to the urogenital mucosa. Relief from burning, pain frequency—in minutes in 90 per cent of cases.

REMOVES LOCAL INFECTION BY LOCAL ACTION

Sulfacetamide—sulfonamide of choice in urinary tract infections—unusually high solubility in acid urine so prevalent in pathological infections—hence (1) effective in 93-98 per cent of cases involving mixed organisms, and (2) safe—no kidney damage, no renal concretions, no anuria.

INDICATIONS:

cystitis, pyelitis, urethritis (nonspecific), prostatitis, pain and infection associated with kidney stones, urinary prophylaxis during pregnancy and gynecologic surgery.

SUPPLIED

SULFID TABLETS - each coated tablet contains: Phenylazodiamino-pyridine HC1, 50 mg.; Sulfacetamide, 250 mg. Bottles of 100.

SULFID SUSPENSION

(Gerratric-Pediatric)—each teaspoonful (5 cc.) contains one-half the Sulfid tablet dosage.



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Literature & bibliography on request.

*A Columbus Original - Introduced July, 1954.

Preparation of Expert Medical Testimony and Presentation in Court

JOSEPH L. SPRAY, JR. Los Angeles

Knowledge and practice of basic rules can qualify any physician as a good expert medical witness.*

THE most common request made of a physician for appearance in court is to testify for a patient who is bringing suit for injuries sustained in an automobile accident. If the doctor knows how to be a good witness, testifying need not be an unpleasant experience.

The doctor should be courteous to the attorney. The lawyer will always arrange compensation for the physician's time and inconvenience. When the attorney requests information about the patient for preparation before the trial, the desired material should be given in unhurried, lay language.

The medical witness must be an impartial disinterested expert who assists the court and jury in resolving the medical problems at hand. Signs of partiality, insincerity, or temper may cast suspicion on both the medical testimony and the profession. The injuries and prognosis should be candidly described.

The doctor should carefully read the medical records before going to *How to be a good medical witness. Connecticut M. J. 19:572-573, 1955.

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Surgeon, Proctologist and General Practitioner... all find our set 400-D to their liking because of its simple and easy operating features. The fact that the proctoscope or the sigmoidoscope can be changed from proximal to distal lighting within seconds, is also appreciated.

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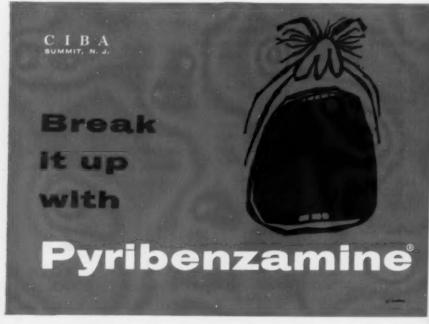


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court. Although familiarity with minute details is not expected, important discrepancies should be avoided to save the doctor unnecessary embarrassment.

All charts, records, and roentgenograms concerning the patient should be brought. Not only do attorneys have the right to inspect such documents, but, if forgotten, the judge may order the physician to furnish such material immediately.

When on the stand, the physician is usually requested to relate to the court and jury the clinical history and physical findings. Counsel may inquire if, in the doctor's opinion, the condition is a proximate result of the trauma. An affirmative answer is the key to the

lawsuit because if the condition is not traumatic a legal case ceases to exist. Inquiries relating to aggravation of a preexisting traumatic condition may also be made and the question of temporary or permanent disability attributable to the accident may be broached.

The jury is more apt to understand the problem if technical language is limited. The medical witness is not to assume the role of the medical lecturer. The court is seeking help for the medical issues at hand, and probabilities of the case rather than academic possibilities are of prime interest. Only testimony about reasonable medical certainties should be given. Questions should be answered directly and definitely without digression.

PYRIBENZAMINE CITRATE (30 mg. per 4 ml.)
Relieves Congestion

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Ever-Increasing Fields of Usefulness for

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biologically active in strengthening CONNECTIVE TISSUE

"Ground Substance"

BIOLOGICAL ACTION OF

Bioflavonoids are involved in CELLULAR METABOLIC PROCESSES and action is not limited to Capillaries.

Mechanism of Flavo-C's Action:

- Acts on enzyme systems involving cellular, metabolism.
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- 4. Maintains normal capillary integrity. . . .
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THE MANY DISEASES
CHARACTERIZED BY
COLLOID DEFICIENCY

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INDICATIONS:

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Respiratory infections (Common Colds, Influenza, Tonsilitis, Allergies)

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Rheumatic Fever, Rheumatic states, Purpura, during Anti-Coagulant Therapy, Epistaxis, Tuberculosis, Edema, Diabetic Retinopathy

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4 to 6 Flavo-C daily for therapy; 1 or 2 daily for maintenance

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St. Petersburg

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Dose: 11/2 to 3 grains, 1 or 2 teaspoonfuls Liquidum, or the tablets, every three or four hours.

Metrazol tablets, $1\frac{1}{2}$ grs. (100 mg.) each. Metrazol Liquidum, a wine-like flavored 15 per cent alcoholic elixir containing 100 mg. Metrazol and 1 mg. thiamine HCl per teaspoonful.

Metrazol®, brand of pentylenetetrazol, a product of E. Bilhuber, Inc.

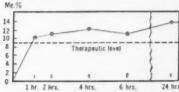
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within an hour
therapeutic blood levels

DELTAMIDE

the preferred quadri-sulfa mixture

The initial dose of Deltamide provides your patients with effective blood levels within 1 hour



Average sulfonamide blood levels obtained with Deltamide in 7 patients given an initial dose of 4 Gm. followed by 1 Gm. every 6 hours.

Meyer, R. J.: Personal communication to the Medical Department, The Armour Laboratories, 1954.

Deltamide combines <u>four</u> sulfas for a better therapeutic effect and a remarkable freedom from toxicity.

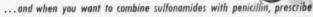
effective blood levels in most patients within an hour

When your patient takes Deltamide, you are sure of

- increased solubility in the urine
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Each Deltamide tablet or teaspoonful of good-tasting suspension provides:

Tablets: bottles of 100 and 1000. Suspension: 4 and 16 oz. bottles



Each tablet—or 5 cc. of the suspension—also contains 250,000 units of potassium penicillin G.

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Made of famous Red Cross Cotton securely wrapped on smooth sticks. Ideally designed and constructed for swabbing infant's nose and ears.

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Cor Pulmonale with Pneumoconiosis

G. W. H. SCHEPERS, M.D. Saranac Lake, N.Y.

Vascular changes with occupational chest diseases depend on the nature and quantity of dust in the lungs and on associated infection.*

The most important hazard for industrial workers exposed to dust is cor pulmonale. Pulmonary vascular change is an etiologic factor, but whether the action of the dust on the lungs or a pneumoconiotic reaction can damage the lungs when

physiologic disturbances are not associated is unknown.

Several physiologic factors can cause heart failure with chronic occupational lung diseases. With emphysema, blood flow is partially obstructed in the alveolar capillaries. Recurrent pulmonary infections may produce myocardial weakness, and fever increases oxygen demand. Bronchial obstruction aggravates ventilatory insufficiency.

(Continued on page 64)

Comparative vascular pathology of occupational chest diseases. Arch. Indust. Hyg. 12:7-25, 1955.

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therapy experience prompt
relief of menopausal symptoms
and a highly gratifying
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You Add Nothing-Just Withdraw and Inject

IN 2-CC.
COLOR-BREAK
AMPOULES
AND IN 10-CC.
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Suggested desage schedules:

SOLUTION

1. I.M. Therapy Combined with Oral Therapy

Give 2 cc. 'Hotycin,' I.M., for immediate therepeutic blood levels, followed by Tablets 'Hotycin,' Crystailine.

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For the moderately severe infection, inject 2 cc. every eight to twelve hours. In everwhelming infections, give 4 cc. every four to six hours.



Stable for Three Years at Room Temperature

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Minimal Local Discomfort

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Note: As with any intramuscular product, injection in different sites will minimize the possibility of local disconfort.

Each cc. of Solution 'Hotycin,' I.M., provides 50 mg. of 'Hotycin,'

*Color-Break (trede-mark of the filmble Glass Company) ampowles break off easily without filing or persiching





Anoxia is the principal functional mechanism in the etiology of corpulmonale with occupational chest diseases. Poor oxygenation increases pulmonary artery vasomotor tone and pulmonary artery pressure. Polycythemia, hypervolemia, and increased cardiac output may be associated. If the cardiac muscle is impaired, congestive heart failure ensues. Because cardiac disease is not intrinsic, the process is reversible if the pulmonary status can be improved.

A number of vascular lesions are noted in lungs of persons exposed to industrial dust. The capillary network over areas of alveolar wall may be obliterated. Among workers in asbestos, quartz, cristabolite, and talc industries, collagen is deposited within the wall.

Quartz, coal, and graphite cause an accumulation of carbon-laden coniophore cells within the alveolar membrane. After talc or beryllium exposure or inhalation of amorphous siliceous particles, the cellular infiltrate may consist principally of macrophages. Multiple layers of capillaries and collagen are noted in iron miners, asbestos and foundry workers, and welders.

The most important vascular changes occur in the small blood vessels. Intimal collagen deposition is caused by quartz, and iron and foundry workers may show nodular intimal swellings containing metal. Asbestos, talc, and beryllium produce a fibrocellular infiltrate of the intima with no evident foreign bodies. With asbestos or talc exposure, fibrocellular reaction may split the muscular layers of the vessel.

Perivascular lesions may consist of a cellular deposit or collagenous

a logical approach to sore throat

'Paredrine'-Sulfathiazole Suspension spreads throughout the nasal tract.





Suspension drifts over nasopharynx, coating inflamed areas.



Instilled intranasally, 'Paredrine'-Sulfathiazole Suspension deposits a fine, even frosting of microcrystalline sulfathiazole throughout the nasal tract. Unlike solutions, this highly bacteriostatic coating does not quickly wash away, but remains for hours, clinging to the inflamed mucosa wherever ciliary activity is impaired by infection. Bacteria in postnasal drip are neutralized before they can reach the nasopharynx and pharynx to intensify the infection.

Moreover, part of the Suspension drifts down over the nasopharynx and pharynx, giving you the potent, prolonged bacteriostasis of microcrystalline sulfathiazole precisely where it is needed most, at the site of infection in the throat.

Paredrine*-Sulfathiazole Suspension

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off. for hydroxyamphetamine hydrobromide, S.K.F.



INTERTRIGINOUS ECZEMA

Sites and Appearance of Lesions: Favored sites are beneath the breasts (see illustration above), in groin, between fingers and toes, behind the ears and on upper eyelids. Lesions vary in severity; are usually inflammatory; are characterized by vesiculation, infiltration, watery discharge and scales and crusts.

Treatment: Applied once daily, 'Pragmatar' is valuable in subacute and chronic eczematous eruptions, especially those in which a seborrheic factor is involved. ('Pragmatar' is contraindicated in very acute eczematous eruptions with marked redness, oozing or pustulation, and in eczematous eruptions on dry, chapped skin.)

PRAGMATAR* highly effective in a wide range of common skin disorders

*T.M. Reg. U.S. Pat. Off.

- -A superior tar-sulfur-salicylic acid ointment incorporating a unique oil-in-water emulsion base.
- -Pleasant to use, non-staining, not unpleasantly greasy.
- Wide margin of safety enhances Pragmatar's usefulness in patients of all ages.

Smith, Kline & French Laboratories, Philadelphia

sheath. Talc and gypsum generally produce a cellular infiltrate. Deposits of coal, iron, and graphite contain large amounts of foreign bodies. Quartz produces a collagenous reaction, and asbestos begins as a cellular infiltrate and later becomes collagenous.

Arteries and veins may be affected by intimal thickening or atheromatous plaques. Silicosis and asbestosis may produce a segmental collagenous infiltrate in the muscularis. The vasa vasorum may enlarge in an attempt to provide collateral circulation.

Less stress is put on the large pulmonary arteries than on small vessels. Intimal atheroma, segmental hypertrophy, collagen degeneration, cicatricial stenosis, and aneurysmal distention may be noted. Vessels may erode and rupture.

Persons with occupational dust diseases generally have nodules in the lungs. Silicotic nodules occur principally within pulmonary lymph nodes but are close to blood vessels, and a small arteriole generally leads to the node. Asbestotic masses are generally paravenous and have abundant capillary supply.

The pleura is avascular with siderosis, silicosis, berylliosis, and anthracosis but is thickened by collagen infiltration with asbestos, tale, and gypsum.

Tuberculous infection makes the vascular changes worse in silicosis. Vascular damage is retarded when tuberculosis occurs with siderosis or anthracosis.



Children enjoy taking delicious liquid Sulfa-Zem, Ideal also for those who have difficulty swallowing tablets. The multiple formula offers greatest potency against the greatest number of infections. Sulfa-Zem maintains high blood levels and excellent tissue distribution. Use of only a fractional dosage of 4 different sulfas absolutely minimizes undesirable side effects.

Each teaspoonful (5cc.) contains:

Sulfadiazine .						į.				21/2	er.	(0.15 Gm.)
Sulfamerazine										23/2	Er.	(0.15 Gm.)
Sulfamethazin												
Sodium Sulfac	et	ar	ni	d4	1					1	22	(60 mg.)

16 oz. and 3 oz. bottles.

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FROM ABROAD

GREECE

Guillain-Barré Syndrome

Isoniazid may be used to relieve the polyradiculoneuritis of the Guillain-Barré syndrome, according to Drs. N. I. Spyropoulos, D. H. Bézos, and E. P. Belka of the University of Athens. The general well-being of the patient is also improved.

In 3 children, fever decreased and appetite increased. Neurologic signs started to regress after a few weeks of treatment. Inflammatory changes progressively disappeared from the cerebrospinal fluid and the sedimentation rate returned to normal.

Isoniazid was administered for a period of three months without untoward reactions.

Arch. franç. pédiat. (Paris) 12:43-47, 1955.

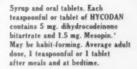
AUSTRIA

Intercurrent Infections

During active tuberculosis in children, intercurrent infections tend to exacerbate the course of the tuberculous process, according to Dr. F. Hagenmüller of Children's Hospital, Bad Wörishafen.

The deleterious influence of an intercurrent infection seems to be directly related to the general condition of the patient and to the extent and course of tuberculosis. Measles, diphtheria, scarlet fever, mumps, and whooping cough are the most debilitating.

Specific treatment, when available, and maintenance of general



Hycodana (Chirdecodeines vil Henstreine Methylkonida)

*Hamatropine methylbromide

BETTER THAN CODEINE FOR COUGH'

FASTER LONGER-LASTING

BETTER THAN CODEINE PLUS APC FOR PAIN2

MORE THOROUGH

Percodan Blodge of Basics in AC

Scored, yellow oral tablets. May be habit-forming. Average adult dose, I tablet q. 6 h.

Literature? write

ENDO PRODUCTS INC., RICHMOND HILL 18, NEW YORK

Hyman, S., and Rosenblum,
 H.: Illinois M. J. 104:357, 1953.
 Piper, C. E., and Nicklas, F. W.;
 Indust. Med. 23:510, 1954.

1U. S. Per. 2,628,185



FROM ABROAD

health are important. Vaccination and protection from exposure are also essential.

Arch. Kinderh, (Stuttgart) 150:140-152, 1955.

SWITZERLAND

Local Anesthetic

Oxyprocaine, a derivative of paraaminobenzoic acid, is valuable when used as a local anesthetic agent in laryngologic operations, reports Dr. A. Weder of St. Clara Hospital, Basel.

Oxyprocaine is less toxic than procaine, produces faster and long-er-lasting anesthesia, and requires lesser amounts of adrenalin to produce the same vasoconstrictor effect. Oxyprocaine was used in 637

operations, including tonsillectomies, submucous resections, and Caldwell-Luc procedures; all could be performed using only ½ % solution.

Oxyprocaine apparently has bacteriostatic properties, since the incidence of inflammatory edema and suppuration is decreased.

Pract. oto-rhino-laryng. (Basel) 16:353-358, 1954.

GERMANY

Toxemia of Pregnancy

The incidence of placental abnormalities is high in parturients with toxicosis of late pregnancy, reports Dr. Klaus Thomsen of the University of Hamburg-Eppendorf. Placental pathology is related to the

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peptic
ulcer
and
other
G-I
disorders

Relieves Andrany Allays

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2/214EM

duration and severity of the toxemia. The most frequent changes are basal and intervillous hematoma, pale necrosis, intraseptal cvst. and hemorrhagic infarcts.

These changes are only secondary phenomena and have no influence on the course of toxemia.

Arch. Gynäk. (Munich) 185:476-503, 1955.

Treatment of Glioblastoma

Surgical and radiation treatment of glioblastoma should be combined for best results, state Drs. E. Klar. J. Becher, and K. E. Scheer of the University of Heidelberg.

Evaluation of results in 34 consecutive cases suggests that surgical excision should be performed as thoroughly as possible to decrease

intracranial pressure and to facilitate treatment with radioactive cobalt.

The cobalt pearls are left in situ during the operation and removed twenty-four hours later. The pearls are threaded on one string and are easily removed through a single burr hole. The total radiation dose delivered is about 6,000 r. The effective depth of penetration is approximately 10 mm.

Arch. klin. Chir. (Berlin) 280:55-65, 1955.

Intraarterial Acetylcholine

A slow intraarterial infusion of acetylcholine produces good results in the treatment of circulatory disturbances of the extremities.

Dr. H. Brandt of Berlin-Buch

MEDICAL HORIZONS TV Monday P.M. Sponsored by CIBA

spasm, acidity and pain

tension and emotional strain

Supplied: Antrenyl-Phenobarbital Tablets (scored), each containing 5 mg. Antrenyl bromide and 15 mg. phenobarbital. ANTRENYL® bromide (oxyphenonium bromide CIBA)

FROM ABROAD

City Hospital observes that good vasodilation is produced soon after institution of the infusion. The reaction persists for several hours after therapy is terminated. A total of 3 to 6 treatments is usually adequate.

The arteries most frequently used for injection of the agent are the cubital in the arm and femoral in the leg.

Deutsche gesundheitsw. (Berlin) 10:555-557, 1955.

Finger Immersion Test

Intravascular hemolysis from cold and heat hemolysins can be easily detected by immersing the patient's finger in cold and hot water consecutively.

Drs. H. Schubothe and W. Müller of the University of Freiburg state that the same test can be used to determine erythrophagocytosis. A tourniquet is placed on one finger before immersion in ice water for ten minutes. Without removing the tourniquet, the same finger is transferred into a hot water bath for another ten minutes. Capillary blood samples are then taken. The degree of hemolysis can be determined from the supernatant plasma in the capillary test tubes. Red blood cell particles in the leukocytes indicate erythrophagocytosis.

With a slight modification, this test can be used to detect acquired hemolytic anemia.

Klin. Wchnschr. (Berlin) 11/12:272-276, 1955.

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atalins-*phosphorus-free vitamin-mineral capsules Mead 1 Natalins-PF capsule Li.d. supplies Here's the ! Vitamin A......6000 units Vitamin D. Ascorbic acid. 3 mg. 4.5 mg. Riboflavin 30 mg. Pyridoxine HCI. Calcium pantothenate..... 22 mg. Calcium carbonate to supply phosphorus-free calcium 450 mg. Bottles of 100,

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results in therapeutic sulfonamide blood levels

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(brand of sulfadiazine).

Bottles of 4 and 16 oz.

"Sulfonamides in an oral fat emulsion vehicle are absorbed to higher and more prolonged blood levels in experimental animals and human subjects, as compared with absorption from an aqueous vehicle."

Stephens, L. J., and Hendrickson, W. E.: To be published.

Literature and samples on request

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Natalins

Mead prenatal vitamin-mineral capsules

1 Natalins capsule Li.d. supplies:

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Ascorbic acid	mg.
	mg.
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	mg.
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88 mg. Bottles of 100 and 500.

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small size ... easy to swallow

small dosage...
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economical, too



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FRANCE

Tuberculous Meningitis

The sequelae of tuberculous meningitis in children are closely related to the severity of the disease and the age of the patient. The chances for survival and the functional prognosis are better in older children.

Drs. G. Heuyer, M. Feld, and H. Danon-Boileau of Paris, after a review of more than 100 cases found that the exudative type of tuberculous meningitis with predominant basilar localization causes the most serious complications. Motor impairment is most frequent with multiple pareses or complete hemiplegia affecting the muscles of the legs.

Partial or nearly complete recovery of motor function may occur after the signs of meningitis subside.

Epilepsy is an uncommon but serious complication since intellectual development is slowed. Mental retardation ranges from slightly lowered I.Q. to complete idiocy.

Occasionally sensory disturbances affect vision, hearing, or balance. Roentgen examinations of the skull may show sequelae of increased intracranial pressure and multiple calcified foci at the site of healed tubercular lesions. Pneumoencephalograms often reveal hydrocephalus due to cisternal block.

Electroencephalographic changes range from minor dysrhythmias to

\$19 N. Michigan Ave. . Chicago 11, III.

(Continued on page 78)



restore free breathing...
in the common cold,
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hay fever,



brand*

- not irritating
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**VASOXYL' Hydrochloride brand Methoxamine Hydrochloride %% Solution for peripheral vasoconstriction

NASAL SPRAY in plastic spray-bottles of % fl. oz.

NASAL SOLUTION in glass bottles of 1 fl. oz.

(with dropper), also 1 pt. and 1 gal.



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DOCTOR, FOR EXPECTANT MOTHERS, TOO, INSTANT RALSTON SUPPLIES EXTRA NUTRITION.

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in psoriasis 79%

of cases freated with Entozyme alone

After using digestive enzyme replacement with ENTOZYME 'Rabins' as the only therapy in a series of 24 psoriasis patients "recalcitrant to all previous treatment," Ingels' reports that "good response occurred in 19 cases [79%] within four weeks to three months . . . complete clearing in four cases."

Entozyme provides pancreatic enzymes to help restore normal metabolism, so commonly disordered in the psoriatic . . . and thus represents an effective systemic approach to successful therapy.



Each Entozyme
'tablet-within-a-tablet' contains:
-in its gastric-sofuble outer
coating Pepsin, N.F. 250 mg
-in its enteric-coated
core Pancreatin, U.S.P. 300 mg.
(Bile salts 150 mg.

*Ingels, A. H., California Medicine 79:437, 1953.

ENTOZYME



A. H. ROSINS CO., INC. - RICHMOND 20, VIRGINIA Ethical Pharmacouticals of Morft since 1878 WHEN BLOOD PRESSURE MUST COME DOWN

Serpasil-Apresoline

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BETTER RESPONSE

87 per cent of patients improved

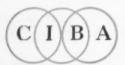
LOWER DOSAGE

averaged only 331 mg. Apresoline daily

FEWER SIDE EFFECTS

headache, tachycardia and palpitation in only 7 per cent

Reference: Hughes, W. M., Dennis, E., and Moyer, J. H.: Am. J. M. Sc. 229:121 (Feb.) 1955.



SUMMIT, NEW JERSEY

SMOOTH THE WAY TO LOWERED BLOOD PRESSURE WITH

SGFUESI tranquilizer-antihypertensive

IN ALL CASES OF HYPERTENSION premedication with Serpasil smooths the way to the unaccustomed milieu of lower pressure. Serpasil tranquilizes the patient, shields him from psychic stress; Serpasil usually prevents the side effects often associated with potent antihypertensives such as Apresoline.

IN MANY CASES the antihypertensive action of Serpasil alone is sufficient to lower pressure and maintain it at desired levels.

Serpasii Tablets, 1.0 mg. (scored), 0.25 mg. (scored) and 0.1 mg. Serpasii Elixir, containing 0.2 mg. per 4-ml. teaspoonful.

SUPPLIED: Serpasil-Apresoline Tablets #2 (standard-strength, scored), each containing 0.2 mg. of Serpasil and 50 mg. of Apresoline hydrochloride.

Serpasil-Apresoline Tablets #1 (half-strength, scored), each containing 0.1 mg. Serpasil and 25 mg. Apresoline hydrochloride.

Serpasit® (reserpine CIBA)

Apresoline® hydrochloride (hydralazine hydrochloride CIBA)

Serpasit®-Apresoline® hydrochloride (reserpine and hydralazine hydrochloride CIBA)



2/ 216210

gross abnormalities consistent with lesions of focal character or involving an entire hemisphere.

Rev. neurol. (Paris) 90:712-770, 1954.

Cancer of the Rectum

Results of therapy for grade I cancers of the rectum can be improved by combining surgery with contact x-ray therapy, report Drs. M. Parturier-Albot, M. Champeau, and Cl. Frileux of the University of Paris.

X-ray therapy should be started as soon as the diagnosis is confirmed by biopsy. Doses of 10,000 to 15,000 r seem to produce best results when given from the beginning. Necrosis of the irradiated tumor occurs within two weeks, but

surgery is not performed until a few days later when healing of the slough starts. If healing is delayed more than ten to fifteen days, however, surgery becomes imperative and extensive removal of surrounding tissues is recommended.

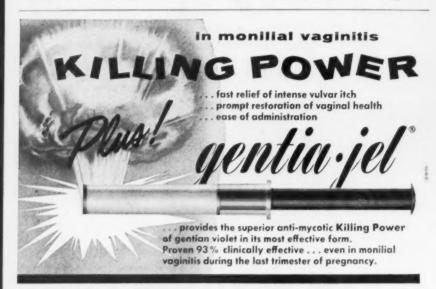
In some patients, x-ray therapy alone may be adequate if started early enough.

Arch. mal. app. digest. (Paris) 44:5-27,

Factors in Psoriasis

Psychogenic elements are apparently important in the origin and course of psoriasis.

Drs. M. Bolgert and M. Soulé of Paris observed such factors in 92% of 200 patients of all ages.



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Division of Foster-Milburn Co.

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Rabellon.

COMPOUND OF BELLADONNA ALKALOIDS

in parkinsonism,
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MAJOR ADVANTAGES: Provides three purified belladonna alkaloids for synergistic effect. Reduces rigidity and tremor. Improves mental outlook.



RABELLON checks tremor, makes fine movements possible

Within a week after you prescribe RABELLON, you can expect improvement in your parkinsonian patient. RABELLON lessens muscle rigidity and tremor. Speech, gait and handwriting become better. Your patient will be able to get out and about again, be able to live a more normal life. No wonder the mental outlook often improves when your patient takes RABELLON.

contains 0.4507 mg. hyoscyamine hydrobromide, 0.0372 mg. atropine sulfate and 0.0119 mg. scopolamine hydrobromide.

Each quarter-sected RABELLON tablet



Philadelphia 1, Pa. DIVISION OF MERCK & CO., INC.

Reference Journal Lancet 74:245 (July) 1954.



Supplied in bottles of 2 or 6 fluidounces.

Dosage is I teaspoonful two or three times daily; two or three times this amount for polassium therapy.

VALENTINE Company, Inc.

RICHMOND 9, VIRGINIA

Psychiatric examinations revealed mainly psychasthenic changes; in about half of the cases a definite relationship could be established between exacerbations of psoriasis and some emotional stress.

Bull. et mém. Soc. méd. hôp. Paris (Paris) 71:406-412, 1955.

Chlorpromazine in Cardiology

Oral or intramuscular administration of chlorpromazine is valuable therapeutically in cardiac patients.

Dr. A. Sanabria administers small doses to help reduce the acute pain and anxiety accompanying coronary insufficiency. Good effects are also obtained in the treatment of nausea and vomiting during digitalis therapy. The drug relieves the subjective symptoms of cardiac arrhythmias.

Arch. mal. coeur (Paris) 48:207-210, 1955.

Convulsions in Newborn

When convulsions occur in newborn infants, motor symptoms are of the clonic rather than tonic type, report Dr. A. Minkowski and associates of the University of Paris. Sometimes only revulsion of the eyeballs or raucous cries reveal the convulsive state. Between crises, the infant remains quiet and may be flaccid or tense. Impaired deglutition frequently makes feeding impossible, and gavage, supplemented by intravenous fluids, should be done if necessary.

Treatment consists of sedatives and procedures to relieve intracranial pressure. Prognosis depends on the severity and duration of the convulsive seizures.

Arch. franç. pédiat. (Paris) 12:271-284, 1955.



Mon-marcotic cough specific—

Romilar 'Roche'

Avoids habit formation, addiction; does not cause drowsiness, nausea, or constipation; yet 10 mg equals 15 mg of codeine in cough suppressant effect. Tablets, 10 mg; syrup, 10 mg/4 cc. Romilar® Hydrobromide - brand of dextromethorphan hydrobromide. Hoffmann - La Roche Inc Nutley · N. J.



Do practical -

about Vi-Penta® Drops for getting the daily vitamin quota into youngsters.

Naturally. Vi-Penta Drops blend with the formula, milk, or juice, or they taste good all alone. Just 0.6 cc daily provides the required A, C, D, and B vitamins (including B6) and the dating on the package insures potency.

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Washington Letter

A Few Prospects for the Mental Health Survey

SOMETHING may be done about mental health problems—perhaps not right away, but at least a start is being made.

Among the few medical bills passed by the last Congress was one authorizing a comprehensive survey of mental health conditions, and 1.25 million dollars was voted to cover the expenses. Preliminary work is already under way to decide what information is the most valuable and how it can most easily be obtained. The survey will take three years. Under the law, it must be conducted by nongovernment groups, which will be responsible for coordinating their efforts and for "including all aspects of the resources, methods and practices involved in diagnosing, treating, caring for, and rehabilitating the mentally ill."

No official decision has been made by the National Advisory Mental Health Council as to what organizations will handle the task, but it is assumed that the money and responsibility will go largely to a Joint Council of the American Psychiatric Association and the Mental Health Council of the American Medical Association. For the last year, this Joint Council has been slowly moving into the field of exploration, using nonfed-

eral funds, and it will probably be designated to conduct the survey shortly after the first of the year. When the survey is completed, the Joint Council will come back to Congress with recommendations on what specifically should be done.

This project has the wholehearted support not only of the medical profession but also of most state governments, which find themselves buried under the costs of mental hospitals.

In specific terms, every patient on the day of admission has a 50-50 chance of release at some time in the future. After two years, the odds become pretty hopeless—he has only 1 chance in 16 of being returned to society. After eight



"Gee whiz, Doctor, I don't know why I was ten minutes late this morning."

years, there is only 1 possibility in 100 that he will be released. As of today, half the inmates of mental hospitals have been confined for eight years or more.

The AMA and APA have agreed that they will not reduce their spending on mental health studies because of the federal grant. Even so, those planning for the threeyear survey are not sure enough money will be available to do a thorough job; if it is not, they will be back to Congress for more. One of the handicaps is that, although mental health has been exploited by newspapers, magazines, and television, and research has been done in all directions, the sum total of our knowledge in the field has not been collected in one package.

In the economic area also, states and individual administrators have complained unceasingly about the pyramiding costs of mental care, but it was brought out at the Congressional hearings this year that almost no research has been done on ways of reducing these costs. Hospital superintendents think that pooling available knowledge on administration may result in impressive savings in hospital costs. Psychiatrists want the opportunity to prove that therapeutic treatment, applied on a mass scale, can empty hundreds of thousands of hospital

At about the time preliminary work was started on the survey, the Conference of State Governors met. Mental health was a problem com-

"... Calm and easier to get along with"

Wife's comment regarding a 43-year-old rancher suffering from a prolonged mild hypomanic reaction who was placed on 0.75 mg. of oral reserpine (Serpasil) daily for 5 months. She told the investigators that without Serpasil it would be intolerable for her to live with him.

Drake, F. R., and Ebaugh, F. G.: Ann. New York Acad. Sc. 61:198 (April 15) 1955.

Supplied: Tablets, 0.1 mg., 0.25 mg. (scored), 1.9 mg. (scored), 2.0 mg. (scored), 4.0 mg. (scored). Elixir, 0.2 mg. per 4 ml.

PSYCHIATRIC USE ONLY: Elixir, 1.0 mg. per 4 ml.; Parenteral Solution, 2-ml. ampuls, 2.5 mg. per ml.

Serpasi (receptor CIRA)

C I B A Summit, N. J.

2/21004

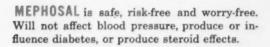
spasm
and pain

safely in more rheumatic patients

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Relaxant mephenesin, "solubilized"* and made more predictable, with analgesic sodium salicylate. With MEPHOSAL your patients get

1. Surer relief from muscle pain and spasm; 2. Greater comfort-in-motion, the ability to move around, work, live more normally, and 3. Less likelihood of crippling disablement or postural deformity, since muscle rigidity and atrophy are avoided or minimized.



Try MEPHOSAL first in LOW BACK PAIN, PAINFUL SHOULDER, STIFF NECK, NIGHT CRAMPS, or wherever you must relieve muscle spasm and pain promptly.

For Best Results start with full dosage: at least 2 Capsules or 3 Tablets, or 1 to 2 teaspoonfuls Elixir, 3 or 4 times a day, with milk or after meals. After 2 days reduce to 1 capsule, 2 tablets, or 1 teaspoonful elixir, as necessary. (Capsules contain mephenesin and sodium salicylate; tablets and elixir contain in addition homatropine methylbromide).

Detailed information to physicians on request.

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*Patent applied for

mon to all. A general complaint was the shortage of qualified psychiatrists to run hospitals and of experienced psychiatrists to handle state programs. Gov. George N. Craig of Indiana said the situation was so bad it resembled colleges competing for football players and coaches.

At one time in the last year, a half dozen states were known to be searching frantically for men who could be identified as "top" to take over their mental health programs. The lowest offer was \$20,000, and in many states the right man could name his own salary.

The governors, who don't want to spend all their time hunting for psychiatrists, toyed with the idea of setting a uniform salary for mental health directors. This obviously was not the answer, as it would not be with football coaches, but the scarcity of qualified, experienced psychiatrists is another problem for the survey. Is the answer subsidization of psychiatric training? Or should treatment and rehabilitation be emphasized, in the hope that success in this direction would lessen the competition for top men?

Dr. Robert H. Felix, director of the National Institute of Mental Health, believes the three-year survey should concentrate on the following questions:

 How can more young people be attracted to mental health as a profession, and how can personnel now in the field be better utilized?

• How broad is the responsibility of psychiatry? Should psychiatry be employed more extensively in solving such nationwide problems as alcoholism, drug addiction, delinquency, and job maladjustment?

(Continued on page 88)

Rx Information

Bentyl

Bentyl affords direct (musculotropic) and indirect (neurotropic) spasmolytic action. Bentyl provides complete and comfortable relief in smooth muscle spasm; particularly in functional G.I. disorders, in irritable colon, pylorospasm, biliary tract dysfunction and spastic constipation.

Composition:

Each capsule or teaspoonful (5 cc.) contains 10 mg. of Bentyl (dicyclomine hydrochloride).

Bentyl with Phenobarbital adds 15 mg. of phenobarbital to the preceding formula.

Bentyl Repeat Action with Phenobarbital Tablets contain 10 mg. of Bentyl and 15 mg. of phenobarbital in the outer coating, and 10 mg. of Bentyl in the enteric-coated core.

Dosage:

Adults - 2 capsules or 2 teaspoonfuls of syrup, t.i.d. before or after meals. If necessary repeat at bedtime.

Bentyl Repeat Action with Phenobarbital Tablets — 1 or 2 tablets at bedtime, or every eight hours as needed.

In Infant Colic — ½ to 1 teaspoonful, ten to fifteen minutes before each feeding.

Supplied:

Bentyl-In bottles of 100 and 500 blue capsules, and as Bentyl Syrup.

Bentyl with Phenobarbital-In bottles of 100 and 500 blue-and-white capsules, and Bentyl Syrup.

Bentyl Repeat Action with Phenobarbital Tablets-bottles of 100 and 500.





THE WM. S. MERRELL COMPANY New York . CINCINNATI . St. Thomas, Ontario

Bentyl

especially when other antispasmodics have failed

204 OF 240 PATIENTS GET "GRATIFYING TO COMPLETE" RELIEF 1-4

240 PATIENTS — in three separate groups — with a variety of functional disorders, were placed on Bentyl therapy. Patients selected for treatment with Bentyl had not received satisfactory relief from other antispasmodic drugs.

The consensus of the three clinicians who conducted the individual studies was: "this compound (Bentyl) compares more than favourably to any other antispasmodic and it should be included in our therapeutic arsenal."

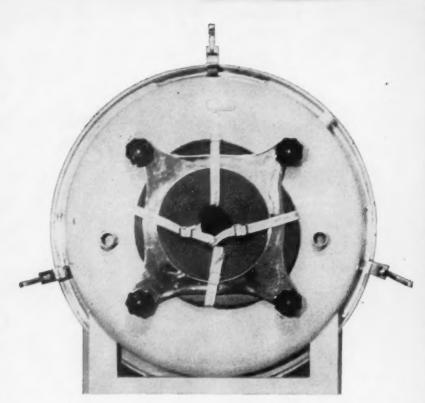
For SAFE, EFFECTIVE RELIEF of nervous gut — prescribe Bentyl, 2 caps. t.i.d.

1. Heck, C.W.: J. M. A. Georgia 40:22-4, 1951. 2. Chamberlein, D. T.: Geotreent.

Hock, C.W.: J. M. A. Georgia 40:22-4, 1951. 2. Chamberlain, D. T.: Gestreet.
 17:224-jG. 1981. 3. Cerame, L.: Canadian Med. Ason. J. 69:832, 1989.



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an original producer of poliomyelitis vaccine (Salk) and poliomyelitis-immune globulin(gamma globulin) in one of America's largest biological laboratories

Something more than "tension" is involved



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Standardized with mathematical accuracy ... by chemical assay

In mild, moderate, and severe hypertension, VERALBA/R usually maintains blood pressure at approximately normal levels indefinitely. It offers "combined" drug therapy that is both safe and effective. Establishing precise dosage is a simple process with VERALBA/R, and side effects are usually insignificant.

Supplied in bottles of 100 and 1,000 scored tablets, each containing 0.4 mg. of protoveratrines and 0.08 mg. of reserpine.

PITMAN . MOORE COMPANY

DIVISION OF ALLIED LABORATORIES, INC. INDIANAPOLIS, INDIANA

 What is the relative value of schools, churches, and other community agencies in mental health programs?

• Why is it that some mental hospitals have high discharge rates and others low, and why does it take so long for proved technics to be adopted generally?

• Is the hospital's role being overemphasized in treating the mentally ill? Would not a combination of outpatient clinics and home care be better for many patients while at the same time easing the load on mental hospitals?

Dr. Felix's questions are pointed at basic issues. It may be that the states and the Congress will want to know what can be done right away to solve an acute problem.

Washington Notes

¶ Buried away in the final report by the Public Health Service on the Cutter Laboratories' trouble with Salk vaccine was 1 sentence that shifted the blame from Cutter to PHS. PHS admitted that at the time of the difficulties "There were fundamental weaknesses in the safety testing procedures which failed to assure what is now believed to be a satisfactory degree of sensitivity." PHS is satisfied that present requirements, put into effect May 27, are sufficient to assure the potency, purity, and efficacy of the vaccine.

¶Incidentally, those who wanted the federal government to project deeper into the Salk vaccine picture regard the present law (limited

acute and chronic

prostatitis...

79% cured or improved with

Furadantin

brand of nitrofurantoin, Eaton

173 cases of prostatitis were treated with Furadantin with the following results:

	Acute prostatitis	Chronic prostatitis	Total
No. cases	20	153	173
Cured	15 (75%)	39 (25.5%)	54
Improved	4 (20%)	79 (51.6%)	83
Failed	1	35	36

(From published reports and personal communications to the Medical Department, Eaton Laboratories.)

Furadantin tablets—50 and 100 mg., bottles of 25 and 50. Furadantin Oral Suspension (5 mg. per cc.)—bottle of 4 fl.oz. (118 cc.).

NORWICH . NEW YORK

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BLUE AT BREAKFAST?

BONADOXIN

(BRAND OF MECLIZINE HCL, PYRIDOXINE HCL)

stops morning sickness

RESULTS
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this
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COMBINATION

In 100 patients with severe nausea and vomiting, Weinberg reports 88% good to excellent results.¹ In another series, Bonadoxin abolished vomiting in 40 of 41 gravida, eliminated nausea in 30 of the 41.² Each Bonadoxin tablet contains:

Mild cases: One Bonadoxin tablet at bedtime. Severe cases: One at bedtime and on arising. In bottles of 25 and 100, prescription only.

In bottles of 25 and 100, prescription on Also indicated in post-radiation sickness, nausea following surgery, Ménière's syndrome.

 Weinberg, Arthur and Werner, W.E.P.: Bonadoxin, a new effective oral therapy for hyperemesis gravidarum. Am. Pract. and Dig. of Treatment. In press. 2. Personal communication. 3. Berenson, P.: Bonadoxin: oral therapy for nausea and vomiting of pregnancy. In press.



Chicago 11, Illinois

* TRADEMARK

grants to states) as only the first step. When the law expires next February, they are prepared to work for a greatly expanded program, with free vaccine for all the eligibles as 1 objective. The question has been raised whether the movement would stop there or would eventually provide free vaccine for all other communicable diseases.

The decision has not definitely been made, but some of the top people in the Department of Health, Education, and Welfare (including Secretary Folsom) are about ready to throw in the sponge on reinsurance. They are not convinced it wouldn't work, but they are convinced that Congress will never give it a trial.

Although Congress is not in session, 2 committees are at work on legislation of medical interest. A Senate judiciary subcommittee studying the narcotic problem has held hearings in New York and other cities and will continue its fact-finding for several more months. At the same time, a tax subcommittee of the Joint Committee on the Economic Report is going over the tax situation, preparatory to laying down guides for Congress next session. One of the questions is how far Congress can go in granting tax exemption for medical expense without causing too great a loss of tax revenue.

The Food and Drug Administration has hired about 40 temporary

(Continued on page 94)

IN ALL TYPES OF DIARRHEA

Arobom

Fast, Positive Relief

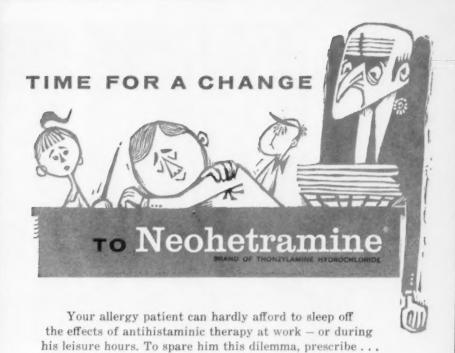
POWDERED CAROB FLOUR)

 Devlin, L. P.: Enteritis in Industrial Medicine— Carob Flour (Arobon) in Therapy, Indust. Med. & Surg. 23:166 (Apr.) 1954. As sole medication in diarrhea, or combined with oral antibiotics in specific dysenteries, Arobon Powder quickly leads to formed stools. Rapid control of water and electrolyte loss prevents debility. Valuable in all age groups from infancy through senility. Arobon is pleasant to take and tends to counteract the nausea associated with diarrhea.

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Neohetramine is virtually free from sedation.

Neohetramine is extremely well tolerated.

Neohetramine is particularly useful in pediatric practice because of its markedly lower incidence of side reactions.

Dosage: Initiate with 50 mg. tablets or syrup, two to four times daily for adults, 25 mg. two to four times daily for children, and increase according to individual response.

Supplied: Tablets—25 mg., 50 mg., and 100 mg. Syrup—25 mg. per teaspoonful (4 cc.) For topical application: Cream 2% in one ounce tubes.

Literature, reprints and clinical supplies on request.

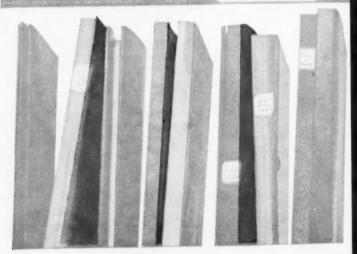


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8,000 papers -



During its seven years of use, Aureomycin has been the subject of more than 8,000 medical papers published in various journals. Reports have been written concerning its value in every field of medicine. Few therapeutic agents have been so well documented.

When a drug has demonstrated its worth, it is usually said to be "established," "accepted," or "proved." If any antibiotic is any of these, Aureomycin is it.

AUREOMYCIN stands on its record!



Now Available:

AUREOMYCIN SF Capsules, 250 mg.

For Patients with Prolonged Illness Aureomycin SF combines effective antibiotic action with Stress Formula vitamin supplementation to shorten convalescence and hasten recovery. One capsule, q.i.d., supplies one gram of Aureomycin and B complex, C and K vitamins in the Stress Formula suggested by the National Research Council. Aureomycin SF Capsules are dry-filled and sealed, contain no oils or paste.

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PEARL RIVER, NEW YORK

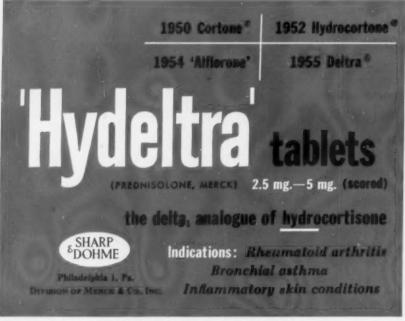


investigators to enforce prescription laws against possible black market operators in Salk vaccine. When there is enough vaccine to meet all demands—possibly as early as next January—FDA will no longer need to police this field.

An indication that federal disability insurance will be one of the big issues in Congress next session is the fact that more than 20 bills on this subject are waiting for action. Last year the House passed a bill to give disabled persons their Old Age and Survivors' Insurance pensions at age 50, rather than requiring them to wait to age 65 for their regular pension. It is now before the Senate Finance Committee, whose chairman, Sen. Harry Byrd (D.,Va.), while critical of the pro-

gram, has promised complete hearings next session.

PHS has scheduled examinations for appointment to the regular medical corps for November 15 to 17 in various cities throughout the country. Openings are in clinical medicine, research, and public health work, both in the United States and abroad. Incidentally, the Senate has approved a bill to give PHS military status, which would mean increased benefits of various types for medical officers. It will be taken up by the House next session. A survey by the Bureau of Labor Statistics finds that union-management health plans are steadily adding new benefits, including dependents in most cases, and increasing the cash value of benefits.





Laxative action ... suited to his routine

Relief of temporary constipation:

Agoral is suited to the acutely constipated patient who can neither take time off for a "purge," nor time-out to answer the sudden urge induced by strong laxatives: the head of a one-man business; the executive committed to a day of important conferences; the bus driver on a long haul; people in the theatre, the pulpit, the factory, the home. For all who need relief of temporary acute constipation, pleasant tasting Agoral provides positive results without urgency.

No urgency; evacuation which adjusts to schedule: A dose taken at bedtime almost invariably produces results the following day. Elimination is comfortably achieved by mild, positive peristaltic action, not by violent paroxysms of unrestrained hyperperistaltis.

No griping; interim discomfort avoided: Agoral's action is sustained uniformly during its passage through the intestinal tract; and it causes no uncomfortable griping, embarrassing flatulence, distention or stomach distress.

Dosage: On retiring, ½ to 1 tablespoonful taken in milk, water, juice or miscible food. Repeat if needed the following morning two hours after eating. Contraindications: symptoms of appendicitis; idiosyncrasy to phenolphthalein.

Supplied: bottles of 6, 10 and 16 fluidounces; and as Agoral Plain (without phenolphthalein), bottles of 6 and 16 fluidounces.



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WARNER-CHILCOTT



"Routine electrocardiograms for screening purposes may be applied to the greatest advantage in patients over age 40. Even if normal, these records will frequently be of great value as baseline studies against which subsequent changes can be evaluated."

Queries and minor notes, J.A.M.A. March 28, 1953, page 1155.

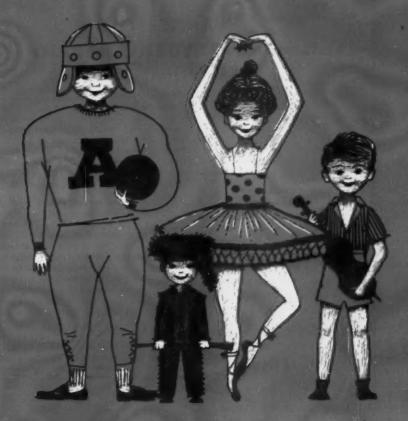
Taking an electrocardiogram is now a simple office procedure with the new



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PEDIATRICS

Prepared In The Interests Of The Profession By The Pediatrics Consultant Staff Of H. J. Heinz Company

BULLETIN

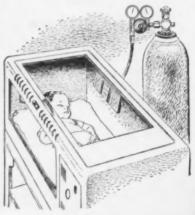
DANGER OF OXYGEN THERAPY IN INFANTS

BLINDNESS, due to retrolental fibroplasia, seems particularly tragic to physicians since it is not the result of saving premature infants who otherwise would have died if they had not had modern "good" care, but seems to be the result, in part at least, of oxygen therapy. The pathogenesis is still obscure, and the concentration and duration of oxygen therapy that makes it dangerous has not been clearly determined. The variation of the incidence of retrolental fibroplasia in different areas

is so great that other modifying factors than oxygen must be strongly suspected. At the moment, physicians are left without precise guides and we must face the possibility that unrecognized but less serious damage from high concentrations of oxygen may occur in older babies too.

• In our present state of confusion as to what to do, we face the real danger that we will deprive the baby of oxygen when he seriously needs it. But the certain indications for oxygen therapy in small infants are for many reasons very obscure. Obviously, one of the most acute needs at the moment is a thorough investigation of the physiology of oxygen need and lack during the neonatal period.

NOTE: These bulletins are designed to help disseminate modern pediatrics knowledge to the general medical profession and appear periodically in Modern Medicine.

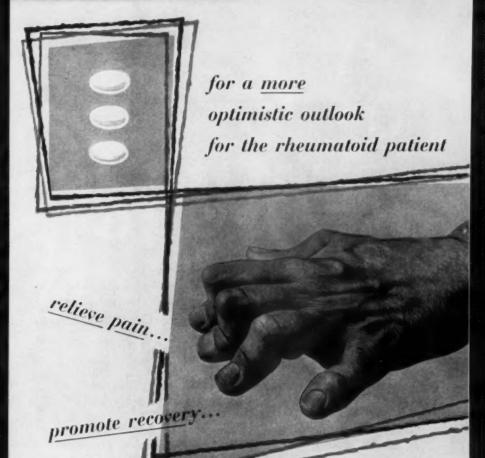




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PABALATE... Each enteric coated yellow tablet contains 0.3 Gm. (5 gr.) of sodium salicylate, 0.3 Gm. (5 gr.) of para-aminobenzoic acid (as the sodium salt), and 50 mg. of ascorbic acid.

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Meprobamate
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Appropriate to an age of mental and emotional stress, **EQUANIL** has demonstrated remarkable properties for promoting equanimity and release from tension. without mental clouding. EQUANIL is a pharmacologically unique anti-anxiety agent with muscle-relaxing features. Acting specifically on the central nervous system, it has a primary place in the management of patients with anxiety neuroses, tension states, and associated conditions.1.2 In clinical trials, patients respond with "... lessening of tension, reduced irritability and restlessness, more restful sleep, and generalized muscle relaxation."3 It is a valuable adjunct to psychotherapy. Clinical use is not limited by significant side-effects, toxic manifestations, or withdrawal phenomena.1.2 Supplied: Tablets, 400 mg., bottles of 48.



1. Selling, L.S.: J.A.M.A. 187:1594 (April 30) 1955. 2. Borrus, J.C.: J.A.M.A. 187:1596 (April 30) 1955.

THE EDITOR'S PAGE

by WALTER C. ALVAREZ, Editor-in-Chief

More Physicians Should Write in Simple Speech

speech what you saw or did or thought?"

I have long had the feeling that hundreds of able, thoughtful, and observant physicians of wide experience should be writing many short reports of interesting and instructive cases. So often a physician would like to write such a report but puts it off because he feels that a paper should contain a long review of the literature, a long introduction telling of all that has gone before, and a lot of graphs, tables, and reports of laboratory work. This is not true.

Many an article is unacceptable for publication just because a bit of useful information has been padded out into a long paper. The padding is of little value. Often I say to the busy man who would like to report an important observation, "Why don't you just dictate what you have to say in the form of a brief letter to the editor; just state in the simplest terms and in daily

There is much valuable and helpful work that could be done by observant men if they would carry a notebook in their pocket. Years ago, when I wanted to find out what the indications for tonsillectomy in an adult were, I kept asking persons who had had their tonsils removed after the age of 21 why they had had the operation, what they expected to gain from it, and what results they had obtained. After I had questioned perhaps 200 such persons I looked over my records and found that only those persons who had been having tonsillitis and repeated sore throat were grateful for the operation.

Later I used the same notebook technic to find out which adults got relief from removal of a so-called chronic appendix. As I remember, only about 1 in 100 of those who had had no spells of acute appendicitis got lasting relief. Later when I wanted to find out what the common foods were that disturbed people allergically, I again used my notebook, and after I had questioned about 500 people, I had the answer.

There are other important questions that can be answered in this simple way by any observant, unbiased, and honest physician. For instance, what are the common exciting causes of nausea, or migraine, or nervous vomiting, or morning diarrhea, or leg cramps, or numbness of a hand in the morning, or regurgitation, or heartburn, or belching? There is need for more information in regard to these symptoms. But the man who is going to give us the answer must not start with any theories or convictions or prejudices or desires to prove something. If he starts out that way his paper will have little if any value, and he will waste his time.

New Light on Muscular Activity

At a recent meeting of the American Philosophical Society, Carl F. Cori told of new light that has been thrown on the activity of muscle. Phosphorylase is present in muscle in two forms. The monomeric form, with a very high molecular weight, is inactive. The dimeric form which has twice this molecular weight, is active. Several other enzymes in the muscle convert these two forms back and forth, one into the other, and keep them in equilibrium. When the muscle of a rat is at rest, most of the ferment is in the inactive form. When the muscle contracts for a few seconds the amount of the active form increases at the expense of the inactive form. After the muscle quiets down, the active form is converted back into the inactive one.

If the muscle is worked at a rate that causes fatigue, the amount of the active form falls below a normal level, and then it may require ten or twenty minutes of rest before the equilibrium is restored.

Interesting is Dr. Cori's statement that the chemical reactions which accompany work in a muscle involve 12 enzymes working in a chain. Perhaps the man who can run a mile in four minutes has leg muscles in which the phosphorylase can be changed back and forth very rapidly.

Treatment of Cardiac Arrest

SAMUEL BELLET, M.D., FRED WASSERMAN, M.D., AND JEROME I. BRODY, M.D.

University of Pennsylvania, Philadelphia

Molar and half-molar sodium lactate solutions restore heart beat after cardiac arrest or ventricular beat during Stokes-Adams seizures and increase the idioventricular rate with complete auriculoventricular heart block.**

Sodium lactate increases cardiac rhythmicity but possesses little or no pressor action. The solution is helpful in prevention and therapy of sudden cardiac standstill and does not produce dangerous ectopic rhythms.

The mechanisms of the cardiac effects of sodium lactate are not entirely established. Preliminary observations in human beings and animals suggest that the chief effects are due to alkalosis, to the direct effect of the sodium ion and probably the lactate ion on cardiac muscles. An increase in the rhythmicity of the cardiac pacemaker and/or the conductivity of the impulse within the heart muscle may also result from a change in any of the factors comprising these properties. This mode of action explains [a] restoration of the heart beat after cardiac arrest and ventricular standstill, [b] narrowing of widened QRS complexes, and [c] increase in

idioventricular rate in complete auriculoventricular heart block.

The dose of sodium lactate ranges from 15 cc. of molar sodium lactate administered in about one minute to a total of 960 cc. of molar and half-molar solution administered within a period of five hours. The rapidity of intravenous injection depends upon the urgency of restoring the heart rate. After the heart beats, the infusion is given more slowly to maintain the heart rate close to normal. The rapidity of the heart rate varies directly with the speed of infusion and can thus be regulated.

Intravenous molar and half-molar sodium lactate solution restored the heart beat on 10 separate occasions in a patient with the Stokes-Adams syndrome and prolonged periods of ventricular standstill after epinephrine, Neosynephrine, and atropine were nonbeneficial. In a patient with terminal cardiac arrest, intracardiac injection of sodium lactate temporarily restored the ventricular beating.

Sodium lactate was administered to 3 patients with complete auriculoventricular heart block. In 1 patient with shock, the ventricular rate was 15 per minute and the QRS complexes were widened. So-

^{*}Treatment of cardiac arrest and slow ventricular rates in complete A-V heart block. Circulation 11:685-701, 1955.

dium lactate increased the ventricular rate to 60 per minute and the blood pressure to 120 to 140 systolic and significantly narrowed the QRS complexes. Decrease in the rate or cessation of administration resulted in a return of the heart rate to 15 per minute on 2 separate occasions. After five hours of administration, the ventricular rate was increased to 60 per minute. This rate was maintained without

further lactate administration. Normal sinus rhythm was restored about one hour later.

In the second individual with complete auriculoventricular heart block, ventricular and atrial rates were significantly increased after administration of sodium lactate. In the third subject, the complete heart block was abolished and the idioventricular beats were entirely replaced by normally conducted beats.

Esophageal Herpes and Cancer

JOHN W. BERG, M.D., MEMORIAL CENTER FOR CANCER AND ALLIED DISEASES, NEW YORK CITY, finds that thoracic surgery or x-ray therapy predisposes to esophageal ulcers; inclusion bodies typical of herpes simplex are found in some of the lesions.

In 444 autopsies of cancer patients, 121 proved noncancerous ulcerations of the esophagus were found; 11 were herpetic. A series of 4,800 unselected autopsies revealed only 4 with esophageal herpes and 38 ulcers. All but 1 of the herpes cases had radiation or surgical treatment to the thorax, but the influence of other factors such as cancer, chemotherapy, or the use of feeding tubes remains to be determined. Premortem descriptions of skin or oral herpes were found in 4 of the esophageal herpes cases. Inclusion bodies were not seen in other organs.

Visible lesions are multiple, small plaques of brown, friable, fibrinoid material above the level of the normal epithelium. Secondary infection is common, enlarging and distorting the typical ulcers. Vesicles are rare, as in herpes of mucous membranes.

Histologically, intranuclear inclusion bodies, type A, begin with eosinophilic granules which coalesce to form pathognomonic bodies half the size of the nucleus. Later the bodies become basophilic and multiple, filling the cell and distorting the nucleus. Secondary infection destroys much of the epithelial margin containing the inclusion bodies; herpes may be the unrecognized antecedent of severe ulcerative esophagitis.

No virus identification was attempted, but only the clinically different varicella and herpes zoster have type A inclusion bodies. Nuclear swelling and reduplication in herpes may be confused with carcinoma in situ unless the possibility of viral lesions is considered.

Esophageal herpes: a complication of cancer therapy. Cancer 8:731-740, 1955.

Penicillin and Rheumatic Fever

LOUIS WEINSTEIN, M.D., AND NORMAN H. BOYER, M.D. $Boston\ University$

MARTIN GOLDFIELD, M.D.

Tulane University of Louisiana, New Orleans

Treatment of streptococcal pharyngitis with penicillin may not significantly reduce the incidence of acute rheumatic carditis in children.*

The manifestations of the acute rheumatic state may be suppressed by chemotherapy of the initiating streptococcal infection. In such instances, electrocardiographic evidence of carditis is the most prominent and sometimes the only diagnostic feature.

Reexamination for heart disease was made of 110 patients treated with penicillin for scarlet fever seven years before. Treatment had consisted of 15,000 units of intramuscular penicillin every three hours for ten days with hospitalization lasting at least three weeks. Group A Streptococcus pyogenes was isolated in every case. Most patients had had symptoms of pharyngitis for forty-eight hours or less. Nearly all patients were under 15 years of age.

Of the patients, 100 had normal electrocardiograms with no manifestations suggestive of rheumatic fever. Prolonged PR and QT intervals appeared in the electro-

cardiograms of 10 children after a latent period of about nine days. Minor T-wave changes apparently due to fever or tachycardia were considered unimportant. Streptococci were completely eradicated from the respiratory passages by penicillin, and no recurrences of pharyngitis or subsequent illness occurred. During suspected rheumatic activity, fever, joint pains, murmurs, high sedimentation rates, or elevated antibody titers were not striking features. All cases of rheumatic fever appeared within twenty-one days of the streptococcal infection.

When the patients were reexamined seven years later, 8 of the 10 patients with abnormal electrocardiograms had auscultatory or roentgenographic evidence of chronic rheumatic valvular heart disease. Of the 100 with normal tracings, 44 had grade 1 or 2 apical or precordial systolic murmurs, 23 had third heart sounds after exercise, 19 had pulmonic systolic murmurs, and 33 revealed no unusual cardiac sounds. Cardiac enlargement was not demonstrable by fluoroscopic examination. The conclusion was made, therefore, that none of these patients had detectable rheumatic heart disease.

*Rheumatic heart disease in scarlet-fever patients treated with penicillin. New England J. Med. 253:1-7, 1955.

Diet in Congestive Heart Failure

MICHAEL G. WOHL, M.D., CHARLES R. SHUMAN, M.D., AND CARL ALPER, PH.D.

Philadelphia General and Temple University hospitals, and Hahnemann Medical College, Philadelphia

Nutritional management of cardiac decompensation aims at reducing the work load of the heart, eliminating edema, and maintaining essential food element balances.⁹

By sharply restricting caloric intake, cardiac work can be decreased by one-third and blood flow to the kidney and liver improved as peripheral needs are reduced.

For acute failure or myocardial infarction, the Karell milk diet, 200 cc. of whole or skim milk four or five times daily for periods of four to seven days, may produce diuresis with improved myocardial efficiency and relief of symptoms. The diet provides about 600 calories and 1 gm. of salt. As the patient's condition improves, a 1,200-calorie diet is given in frequent, small, easily digestible feedings.

When compensated ambulation is achieved, protein and caloric allowances are gradually increased. Overweight patients, however, are fed 1,200 calories until weight becomes normal or slightly subnormal. Obese patients with cardiac failure do not always show as great benefit from low-calorie diets as nonobese patients.

Restriction of salt to a level less

than urinary output decreases edema; restriction of water alone is ineffective. For slight degree of heart failure, removal of cooking and table salt from the diet may be enough. For moderate failure, a diet providing 1.5 to 2 gm. of salt daily, combined with adequate fluid intake, will increase urine output. If edema and pulmonary congestion persist despite digitalis, diuretics, and moderate sodium restriction, salt should be reduced to 0.5 gm.

Sodium intake can be restricted to 0.6 to 0.8 gm. daily by [1] avoiding canned foods unless prepared without salt; [2] using unsalted bread and fats: [3] avoiding frozen peas and lima beans, fresh beets, and celery; [4] using no preserved foods, meats, fruits, flour mixes, or relishes containing salts; and [5] avoiding seafood. For stricter diets, sodium-free milk such as Lonalac or Lesofac is necessary. Salt substitutes such as Co-Salt, Neocurtasal, and Diasal, lemon juice, dry mustard, and pepper may be used for seasoning.

Patients who cannot be maintained on salt-restricted diets may require mercurial diuresis, ion-exchange resins, or carbonic anhydrase inhibitors.

Nutritional and metabolic aspects of congestive heart failure. Arch. Int. Med. 96:11-18, 1955,

The low-salt syndrome characterized by decreased urinary output, increased edema, apathy, lethargy, nausea, vomiting, weakness, and muscular cramps may result from drastic salt restriction and mercurial diuretics when the patient has impaired tubular reabsorption. When both hyponatremia and hypochloremia exist, sodium chloride tablets orally or as a 3 to 5% solution intravenously may bring prompt diuresis and relief of symptoms. If the low-salt syndrome is unrecognized or improperly treated, the patient may die.

Malnutrition may be a factor in unresponsiveness of cardiac failure to therapy. Edema often masks emaciation except in the pectoral muscles and upper extremities.

Protein depletion is common in chronic cardiac patients. The diet should contain protein of high biologic value, at least 1.5 gm. per kilogram of normal body weight, as soon as diuresis begins. In overweight patients, 1.5 to 2 gm. per kilogram of body weight with restriction of carbohydrate and fat will replenish protein and burn endogenous fat.

Low-tissue thiamine stores and high rates of thiamine excretion during diuresis dictate supplemental therapy. No advantage is found in the administration of more than 10 mg. of thiamine a day in correcting subclinical deficiency.

Cardiac failure patients resistant to therapy may have large potassium deficits with overhydration of cells. Oral potassium Triplex, 2 tsp. three times a day, prevents potassium depletion. Potassium chloride or organic salts, 3 gm. daily, may be sufficient to treat deficient patients but should not be used when impaired renal function, oliguria, and hyperpotassemia exist.

Variation of Hemoglobin Level

W. W. HAWKINS, EIRLYS SPECK, AND VERNA G. LEONARD, HALIFAX, N.S., report on a study to establish the trend of hemoglobin values in relation to age and sex. A six-month survey was made of 1.308 males and 1.424 females between the ages of 9 and 98 years.

Among children 6 to 14 years old, values increased with age from about 13 gm. per 100 cc. of blood to about 14 gm., with no essential sex differences. Between 14 and 20 years of age, values decreased in girls to about 13 gm. and increased in boys to approximately 14.5 gm. In both sexes, values attained by 20 years of age remained characteristic of the third decade of life.

Hemoglobin values in men between 20 and 60 years of age were typically 14.5 to 15 gm., the lower values occurring among the older men. Decreases in men were progressive and more noticeable after the fifth decade. In women, values remained near 13 gm. after 20 years of age.

Variation of the hemoglobin level with age and sex. Blood 9:999-1007, 1954,

Functional Causes of Dysphagia

STANLEY H. LORBER, M.D., AND HARRY SHAY, M.D. Temple University, Philadelphia

Changes in swallowing induced by parasympathetic drugs differentiate cardiospasm and esophageal dysrhythmia and provide a basis for therapy.*

Esophageal motor waves, sphincter action, tonus, and gravity are the factors involved in swallowing. Motor activity of the esophagus and sphincteric action in the lower esophagus are the most important mechanisms. Gravity is insignificant in healthy persons but may be important when deglutition is disturbed.

Esophageal transport may be disturbed not only by anatomic obstructive lesions but in addition by cardiospasm or esophageal dysrhythmia.

CARDIOSPASM

A deficiency or absence of ganglion cells in the myenteric plexuses in the lower esophagus causes cardiospasm. As a result of parasympathetic denervation, tonus response of the lower esophagus to parasympathomimetic drugs such as Mecholyl and Urecholine is increased.

Persons with cardiospasm have more difficulty swallowing solid foods than liquid foods and frequently wash food down with water. Swallowing is usually painless, but substernal discomfort may occur at the end of a meal. Regurgitation, vomiting, and weight loss are common.

Studies made after ingestion of a barium and water mixture show retention of about 85% of the barium after three minutes. Among individuals without gastrointestinal symptoms, esophageal emptying is complete within an average of ten seconds.

The administration of Urecholine after a barium swallow to patients with cardiospasm produces spasm of the lower esophagus, frequently with severe substernal pressure and vomiting. Dibuline, a parasympatholytic drug, relaxes the spasm, improves emptying somewhat, and may afford symptomatic relief. After 0.4 mg. of nitroglycerine is given sublingually, the esophagus empties completely or retains no more than 25% of the barium after three minutes.

Some parasympathetic blocking agent may be administered to persons with cardiospasm thirty to sixty minutes before meals. Dosage is increased until the mouth becomes dry.

Nitroglycerin may be taken during meals if pain occurs.

^{*}Roentgen studies of esophageal transport in patients with dysphagia due to abnormal motor function. Gastroenterology 28:697-714, 1955

ESOPHAGEAL DYSRHYTHMIA

In esophageal dysrhythmia, the nerve supply is probably intact but motor impulses are disorganized. Timed esophageal transport studies with barium and parasympathetic stimulants and depressants may be necessary to establish diagnosis.

Dysphagia is often intermittent, and an attack may last for minutes or years. Severity is variable. Substernal pain or burning is common, but patients seldom wash down food or lose weight.

Roentgenograms may reveal hiatus hernia, esophagitis, or constriction rings in the lower esophagus. Inflammation or ulceration may be evident by esophagoscopic examination.

Esophageal transport studies made after barium swallow show that emptying is often delayed and may be incomplete after three minutes. When evacuation is delayed, propulsive force is apparently in-adequate. Reflux from the lower esophagus with subsequent disorganized waves that do not promote evacuation is noted.

Urecholine shortens the emptying time and eliminates retention after three minutes. Dibuline inhibits the already disorganized peristaltic waves, increases the activity of the inferior sphincter, and produces more retention.

Urecholine, 5 to 10 mg. dissolved in water, may be given to patients with dysrhythmia thirty to sixty minutes before eating. An ulcer-type diet, sedatives, and antacids may also be used. The patient should receive instructions in proper eating habits. Since emotional factors are frequently involved, drug treatment is difficult to evaluate.

Myeloid Metaplasia in Polycythemia

EDWARD STEINFIELD, M.D., AND LAWRENCE HARVEY BEIZER, M.D., UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, believe that myeloid metaplasia is a sequela rather than a complication of polycythemia vera. The condition may be classified as primary or secondary. The latter type is associated with metastatic carcinoma, tuberculosis, marble bone disease, myelofibrosis, or osteosclerosis.

Diagnosis is suggested by [1] prolonged polycythemia, sometimes of ten to twenty years' duration, [2] massive splenomegaly, [3] leukemoid blood condition, with anemia and normoblasts and bizarre or giant platelets in peripheral blood smears, [4] osteosclerosis, and [5] shift of the bone marrow to the mature side of the granular series with no leukemic hiatus or shift to immature components, as with leukemia. Splenic biopsy or puncture may confirm diagnosis of myeloid metaplasia.

Splenectomy or irradiation may be employed in the occasional instance of hypersplenism.

Myeloid metaplasia as a sequela of polycythemia. Am. J. M. Sc. 228:388-395, 1954.

Myocardial Infarction in Women

THOMAS N. JAMES, M.D., HENRY W. POST, M.D., AND F. JANNEY SMITH, M.D.

Henry Ford Hospital, Detroit

The effects of the menstrual cycle upon lipid metabolism and blood elements and vessels contribute to a low incidence of myocardial infarction in premenopausal women.*

The incidence of myocardial infarction is lower in women than in men. The condition is particularly uncommon before the fifth decade in women. Premenopausal infarction is seldom due to spontaneous coronary arteriosclerosis. While the sex differences in myocardial infarction have been known for a

number of years, the reasons for the differences are not clear.

Several factors may contribute to a delayed onset of myocardial infarction in women. Even in infancy, the intima of the coronary arteries is thinner in females than in males. The premenopausal woman does less heavy muscular work, has a smaller heart, and requires less coronary circulation than the male of the same age (Fig. 1).

Female sex hormones have widespread effects upon the vascular bed aside from the effect on cholesterol. During the premenstrual pe-

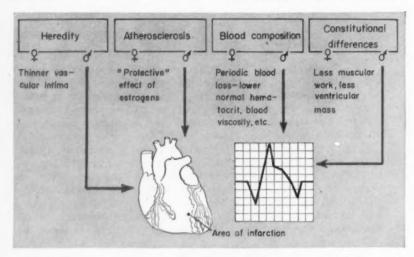


Fig. 1. Factors influencing the relative infrequency of myocardial infarction in premenstrual women

^{*}Myocardial infarction in women. Ann. Int. Med. 43:153-164, 1955.

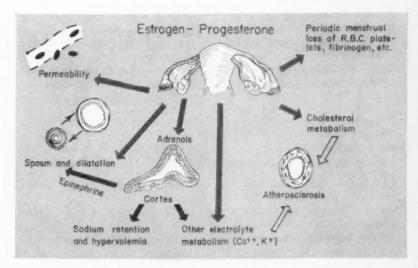


Fig. 2. Some effects of female hormones on blood composition and blood vessels

riod, arterioles are dilated and capillary permeability is increased. With the onset of menstruation, sensitivity of the small vessels to epinephrine is increased. Estrogen promotes the retention of sodium and water and, through changes in calcium metabolism, may have an indirect influence upon atherosclerosis (Fig. 2).

Menstruation results in changes in blood composition which may lessen the predisposition to thrombosis. Loss of menstrual blood lowers the red cell mass, and, in addition, fibrinogen is lost. Periodic fluctuations in the platelet count during the menstrual cycle alter coagulability of the blood.

Strong predisposing factors, such as hypertension, diabetes, or both, almost always exist when myocardial infarction occurs before the menopause. Other factors include polycythemia vera, coronary emboli due to valvular heart disease, and obesity.

CHRONIC RECTAL BLEEDING may be caused by allergy to milk. F. P. Antia, M.D., and S. H. Cooper, M.B., of the B. D. Petit Hospital, Bombay, India, report that rectal bleeding stopped when the diet of a 38-year-old woman was restricted to fruit juice and water. Hemorrhage recurred whenever milk was given. The patient apparently has been desensitized by starting with 1 drop of milk and then increasing the amount ingested by 1 drop a day.

Brit. M. J. 4927:1416-1417, 1955.

Psychometric Studies in Medical Practice

GORDON R. KAMMAN, M.D., AND CHARLES KRAM, PH.D. University of Minnesota, Minneapolis

The importance of personality factors in disease can be evaluated by psychologic testing.*

Diagnosis, treatment, and prognosis of psychosomatic conditions are facilitated by psychometric examination. The tests may differentiate between psychogenic and organic lesions. If personality deviations are evident, psychotherapy may be advisable.

Tests given by psychologists are used as diagnostic procedures. The psychometric examination includes nonprojective and projective tests.

Nonprojective tests are designed primarily to evaluate personality traits quantitatively and relative to statistically established norms. The Wechsler-Bellevue intelligence test, Bender-Gestalt test, Bernreuter Personality Scale, and the Minnesota Multiphasic Personality Inventory are of this type.

The projective technics reveal qualitative and subjective differences that show how the personality functions. The tests employ amorphous or unstructured stimuli material. Responses are compared with previously established norms and also evaluated subjectively by the examiner.

The responses are regulated by

past experiences, present needs, and basic attitudes and indicate personality assets and the mechanisms of personality liabilities and defects. The Rorschach and the Thematic Apperception tests are projective studies.

Deviation within an individual in such categories as depression, hysteria, psychopathy, masculinity-femininity, paranoia, psychasthenia, schizophrenia, and mania is detected by the Minnesota Multiphasic Personality Inventory. The test is simple, easy to administer, and economical. Scoring may be done by an office secretary. Severity of personality disturbances can be assessed. The test also is of aid in indicating borderline conditions and the mixtures of psychotic and psychoneurotic elements.

The Bender-Gestalt test roughly estimates the extent of organicity in psychiatric deviations. The test is used to explore loss of function and to evaluate cerebral injury and disease. Chronic brain syndrome and reactive depression may be differentiated. Organic deterioration with, for example, cerebral arteriosclerosis may be revealed.

The Wechsler-Bellevue test gives an accurate measure of adult intelligence, and the patient's ability to absorb psychotherapy and psycho-

^{*}Value of psychometric examinations in medical diagnosis and treatment. J.A.M.A. 158:555-560, 1955.

logic explanations is determined.

The Rorschach (ink-blot) test is probably the most useful psychometric procedure. Personality traits and sources of conflict may be detected, since deep-seated motives and feelings are brought out. The examiner can estimate whether a symptom or illness is an over-all solution to life's problems or a temporary expedient for dealing with a specific situation.

The Thematic Apperception test may be used to supplement the Rorschach test. The patient is asked to construct a story for 20 pictures, such as an illustration of a woman with a little girl. Drives, conflicts, relationships, and environmental demands that influence the patient's thoughts and actions are revealed. The test may demonstrate specific etiologic stresses in a psychosomatic condition.

Varicella Outbreak from Herpes Zoster

HOWARD L. MOSCOVITZ, M.D., MOUNT SINAI HOSPITAL, NEW YORK CITY, reports a minor epidemic of classical chickenpox initiat-

ed by a case of generalized herpes zoster.

A patient with chronic lymphatic leukemia was admitted to the hospital with herpes zoster ophthalmicus. Within two days, the entire skin, including palms and soles, became covered with umbilicated, purplish-red, tense vesicles and small bullae. Aspiration of the bullae yielded serosanguineous fluid containing intraepithelial, eosinophilic inclusion bodies.

A grandchild at home and 14 direct and indirect hospital contacts, none of whom had had chickenpox, contracted varicella. All had rash twelve or thirteen days after exposure. In an indirectly exposed patient with previous varicella, herpes zoster occurred.

Generalization occurs in about half of patients with herpes zoster associated with leukemia or lymphoma. No leukemic skin or dorsal root ganglion infiltrations were found in the reported case to account for the association.

Laboratory studies of a lesion did not identify the virus but did

rule out smallpox, vaccinia, and herpes simplex.

Varieties of herpes zoster-varicella disease are: [1] chickenpox from contact with herpes zoster, [2] localized herpes becoming generalized in the same individual, [3] generalized herpes zoster followed by varicella in contacts, and [4] herpes zoster from contact with chickenpox. The first type is most common.

Since epidemics initiated by herpes zoster are rare, the disease does not require isolation. However, contacts should be restricted to members of the hospital staff who have had chickenpox.

Generalized herpes zoster initiating a minor epidemic of chickenpox. J. Mt. Sinal Hosp. 22:79-90, 1955.

Smoking and Lung Cancer

JOSEPH BERKSON, M.D. Mayo Clinic, Rochester, Minn.

Statistical studies have not proved that smoking causes lung cancer or even that it is associated with it in a meaningful way.*

The published studies on the effect of smoking are based on the use of selected samples. It is shown mathematically that such samples may give rise to spurious association. Much more work must be done and time allowed for evaluation of such work before a responsible opinion can be had as to the precise significance of the studies.

To study hospital populations, dead or living, is fallacious. If the subpopulation of the hospital which is used for the comparison of a disease in a group (x) and its control (v) is not representative in the ratio of the marginal totals of x and y of the corresponding ratio in the general population, then, except under special circumstances, association will appear in the hospital population even if none exists in the general population from which hospital population is drawn. Similarly, it is fallacious to draw conclusions from selected samples which are not representative of the population under investigation.

In a study made by the American Cancer Society, the proportion of

current cigaret smokers among white males between 50 and 69 years of age is about 43%. When past smokers are included, the rate rises to more than 57%. This is in contrast to Bureau of Research Information estimates of 75%. Apparently, the discrepancy is a result of selection, with the sampled population of the Society weighted with non-smokers, since persons who smoke tend not to volunteer.

The Cancer Society statistics for deaths are materially lower than those for white males in the United States. This again suggests that men in relatively poor health did not enter the Society survey and that, among volunteers, death from all causes was less frequent.

Cancer Society studies show that the number of deaths from cancer other than of the lungs, coronary heart disease, and other specific diseases is also greater in smokers than in nonsmokers. Thus, if the finding of a higher death rate from cancer of the lungs among smokers in the population studied is proof that smoking causes cancer of the lungs, such a finding supports smoking as the cause of almost any other disease. This conclusion is not tenable, and the finding brings in question the validity of the statistical approach to the problem.

^{*}The statistical study of association between smoking and lung cancer. Proc. Staff Meet., Mayo Clin. 30:319-348, 1955.

Drugs for Treatment of Allergy

SAMUEL M. FEINBERG, M.D., AND ALAN R. FEINBERG, M.D. Northwestern University, Chicago

Manifestations of allergy may be relieved by drugs that act by various mechanisms.*

Sympathomimetics, bronchodilators, antihistamines, expectorants, sedatives, steroid hormones, and antibiotics may be used for symptomatic treatment of allergy. The particular agent, as well as the class of drugs, must be carefully selected for safe and effective management.

SYMPATHOMIMETIC DRUGS

Epinephrine is used for asthma and other acute allergic reactions. Dose is 0.3 to 0.35 cc. of a 1:1,000 aqueous solution. Epinephrine base in oil is recommended only in a 0.2-or 0.3-cc. dose for asthma a few minutes after the effect from an aqueous solution is obtained. The agent in a 1:100 solution nebulized as an aerosol is an effective home remedy.

A 1-cc. ampule of epinephrine often causes tachycardia, hypertension, chills, and headache. Excessive use may also damage the respiratory tract. Frequent injections are not advised if the drug is ineffectual.

Ephedrine is effective for asthma and, to a lesser extent, for vasomotor rhinitis and urticaria. A small dose of a barbiturate is usually employed with the agent to forestall overstimulation of the central nervous system, tachycardia, and difficulty in urination.

Racephedrine may be tolerated when ephedrine is not, and if not, Propadrine may be tried. Clopane is sometimes useful, particularly for nasal allergy. The drug is usually combined with an antihistamine in such preparations as Hista-Clopane or Co-Pyronil.

Privine, Neosynephrine, ephedrine, Propadrine, and Benzedrex, in order of potency, are local nasal constrictors that may be employed occasionally when the nose is badly stuffed or when a patient has nasal infection and drainage is required. Continuous use is harmful.

BRONCHODILATORS

Aminophylline may be prescribed as a supplement to epinephrine for constitutional allergic or anaphylactic reactions involving the bronchi. This agent or other bronchodilators are useful for asthma when bronchospasm is involved, which can be ascertained by therapeutic trial.

An intravenous dose of 250 mg, should be injected slowly. Suppositories or rectal instillations are good home remedies, but patients object to the rectal irritation.

For asthma, small quantities of

*Useful drugs in the treatment of allergy. Illinois M. J. 108:5-9, 1955,

aminophylline are combined with ephedrine. A sedative should be added when large or frequent doses are given.

Isopropyl epinephrine (Isuprel, Norisodrine) used as an aerosol has about the same bronchodilating power as epinephrine aerosol but lacks pressor activity and, therefore, virtually replaces epinephrine aerosols except for treatment of shock and allergic reactions necessitating vasoconstriction. Solution used is 1:100 or 1:200.

Occasionally, inhalation of a diluted powder is more effective. Sublingual tablets, 10 to 15 mg., may relieve asthma but induce systemic symptoms such as tachycardia and nervousness more frequently than the aerosol.

ANTIHISTAMINES

Antihistamines are employed as nasal sprays for slight nasal allergy, as aerosols for asthma of children or allergic cough, as eyedrops for allergic conjunctivitis, and as creams or ointments to relieve moderate itching, as with urticaria.

The antihistamines can be divided into 3 groups, according to sedative action. If a physician becomes familiar with 1 drug in each group, others need be tried only as required in special cases.

Benadryl, Decapryn, and Phenergan are sedative, potent antihistamines.

Clistin, Chlor-Trimeton, Diatrin, Di-Paralene or Perazil, Histadyl or Thenylene, Neo-Antergan, Pyribenzamine, Pyrrolazote, Tagathen, and Trimeton are moderately sedative, and most are effective.

Antistine, Neohetramine, and Thephorin have the least sedative action.

Effects of most of the drugs last about four hours. If a drug is effective but too sedative, 2.5 to 5 mg. of dextro-amphetamine or ephedrine is added as a neutralizer.

Antihistamines are not generally useful for asthma of adults except as a supplement to other drugs, and are of little benefit in the obstructive stage of seasonal hay fever or perennial vasomotor rhinitis. Severe urticaria, angioneurotic edema, or reactions from serum or penicillin may not be arrested by antihistamines, especially in the usual dosages. The agents may supplement but cannot replace ephinephrine in management of anaphylactic shock or acute allergic reaction.

EXPECTORANTS

Potassium iodide may be administered for prolonged asthma in oral doses of about 10 gr. three to four times a day, well diluted. Addition of 1/16 gr. of apomorphine hydrochloride to each dose may prove helpful.

Ammonium chloride may be substituted when iodide is not tolerated. Ipecac can be tried, though an emetic dose may be quicker. Carbon-dioxide inhalations also have an expectorant effect.

SEDATIVES

Persons with allergy may require sedatives to allay apprehension, promote sleep, or counteract stimulating drugs.

Barbiturates are generally adequate unless sensitization results.

Chloral hydrate is preferred for patients with asthma. Opium derivatives should not be used for asthma, and Demerol is hazardous.

STEROIDS

The hormones are useful in status asthmaticus to tide a patient over when other medication fails; in some instances of persistent asthma when allergic factors are unknown or where other approaches are ineffective; occasionally for atopic dermatitis, seasonal hay fever, rhinitis, and urticarial dermatoses; and for serum-sickness reactions from penicillin or serum when antihistamines fail.

Cortisone can be administered orally. Usual amount is 150 to 300 mg. daily, average 200 mg., in 4 doses. If partial relief is obtained after two days, the dose is reduced to 150 mg. and, after further improvement, to 100 mg. two days later. Further reduction is more gradual. Maintenance dose is 50 to 100 mg. daily.

ACTH is usually given as ACTHAR Gel in initial intramuscular doses of 50 units twice a day. Injections are reduced to a maintenance dose of 20 to 40 units in 1 daily dose.

Therapy with ACTH or cortisone must be gradually discontinued because depression of the pituitary-adrenal system may cause severe relapses.

Combined medication with full doses of ACTH and a moderate dose of cortisone may be employed. When improvement occurs, ACTH is rapidly decreased, while the cortisone dose is constant.

Hydrocortisone or Compound F is perhaps slightly more effective than cortisone. Ointments of 1 to 2.5% hydrocortisone improve some localized dermatoses in two days or less. Ophthalmic ointments may be useful in allergic or other conjunctivitis, and drops and sprays alleviate allergic rhinitis.

Meticorten is 5 to 8 times as potent as cortisone and does not produce water retention or deplete potassium as often.

Steroids are no substitute for other symptomatic treatment, investigation of causes, or specific management of an allergic syndrome. The hormones are not fully effective for two days.

MISCELLANEOUS DRUGS

Aspirin is generally useless for asthma or vasomotor rhinitis and may produce urticaria, angioneurotic edema, and acute asthma. Many individuals allergic to aspirin do not tolerate acetanilid or aminopyrine but can take Apamide.

Antibiotics are effective against acute infections of the respiratory tract but not for asthma. Unnecessary antibiotic treatment, especially with penicillin, is hazardous for allergic patients because of the danger of sensitization and anaphylactic or fatal reactions.

Ether is one of the most effective remedies in status asthmaticus. Rectal dose is 3 to 4 oz. with an equal quantity of vegetable oil, and about 1 oz. may be repeated every two to three hours for twenty-four hours.

Arsenic is sometimes used for asthma.

Treatment of Diabetic Coma

HOWARD F. ROOT, M.D. Harvard University, Boston

Large doses of insulin given early and adequate replacement of fluid and electrolytes are required for successful therapy of diabetic acidosis.*

DIABETIC coma is always a medical emergency but is reversible if the diagnosis is made early and adequate treatment is given.

Early administration of large doses of insulin is essential to successful therapy. Treatment in the hospital is advisable. If delay of hospitalization is anticipated, 20 to 50 or even 100 units of insulin should be administered immediately. However, insulin should not be given until hypoglycemia has been excluded by testing the blood or urine sugar.

The total insulin requirement in the first twenty-four hours is roughly proportional to the initial blood sugar. The insulin requirement may not be known until a second blood sugar determination measures the efficacy of the first dose. Insulin is given in divided doses and may be administered as often as every fifteen to thirty minutes. If acidosis is severe, especially with circulatory collapse, half of the initial dose is given intravenously. If 50% of the twenty-four-hour insulin requirement has not been

given in three hours, administration is too slow.

Dehydration and electrolyte losses are important features of diabetic coma. Dry, inelastic skin, dry tongue and mucous membranes, and soft eyeballs are the signs of dehydration. Both intracellular and extracellular fluid are lost, along with sodium, potassium, and phosphate ions. Sodium losses lower the ratio of sodium to chloride, and relative hyperchloremia appears.

Normal saline is usually adequate for initial replacement therapy. The ideal solution is a slightly hypotonic mixture of sodium chloride and sodium lactate. Potassium and phosphate are preferably provided by diet, and parenteral potassium is avoided unless urine output is adequate.

Glucose should not be administered during the first hours of treatment. Glucose increases the insulin requirement, contributes to potassium deficiency, and invalidates the blood sugar as a prognostic sign. Hypertonic solutions are avoided.

Gastric lavage is performed to overcome acute gastric dilatation and to prevent vomiting and aspiration. Lavage and an enema relieve distention and prepare the alimentary tract for food and fluids.

Diagnosis of diabetic coma may

Treatment of diabetic coma. J. Chron. Dis. 2:121-135, 1955.

be difficult. Weight loss, thirst, urinary frequency, and persistent glycosuria usually are noted, and finding acetone or diacetic acid in the urine is an important warning. Headache, restlessness, nausea and vomiting, drowsiness, and air hunger should arouse suspicion.

Uremic acidosis should be differentiated from diabetic coma. With uremia, the eyeballs are not soft, nausea and vomiting are more prominent, and the breath may be uriniferous instead of fruity. The nonprotein nitrogen is strikingly elevated.

Outline of Treatment for Diabetic Coma

(Joslin Clinic, New England Deaconess Hospital, Boston)

FIRST HOUR AFTER ADMISSION: Special nurse, preferably experienced in coma treatment, for the first few hours

- Examine urine for sugar, acetone, diacetic acid, albumin, coma casts, and pyuria. Cathetorize if necessary.
- Test blood for sugar, carbon dioxide, and nonprotein nitrogen, with emergency report within the hour. Obtain white blood count.
- 3. Search for complications and establish diagnosis. Determine cause of coma. Make physical examination, noting particularly [a] state of consciousness, type of respiration, pulse rate, blood pressure, and rectal temperature and [b] soft eyeballs, dry tongue, dilated stomach, cold and mottled skin, and impacted rectum. Make roentgenogram of chest and abdomen when possible and electrocardiogram to determine coronary and potassium changes.
- 4. Give adults 50 to 100 units of regular insulin subcutaneously at once. For deep coma, especially with circulatory collapse, give insulin intravenously. If blood sugar exceeds 300 mg. per 100 cc. and if the blood carbondioxide content is 9 mM. per liter or less, repeat the dose. The amount of insulin given is

- proportionately less in young children, especially if diabetes is of recent onset. When blood sugar is between 600 and 1,000 mg., give 200 additional units; when blood sugar is over 1,000 mg., give 300 additional units.
- For gastric lavage, use a large tube; aspirate completely; and wash stomach with warm water with great care.
- 6. Give 2,000 cc. of normal saline intravenously. After the first liter of saline solution is given, change to a solution of saline lactate. If lactate is unavailable, normal salt solution may be continued. Avoid too rapid administration, especially in older patients.
- Keep patient warm but avoid burns, as from hot-water bottle.
- 8. Give potassium solutions by vein for definite indications when [a] blood analysis or electrocardiogram suggests hypokalemia and [b] potassium depletion has probably resulted from prolonged serious ketosis and/or deficient intake. Only when urinary output is adequate, give 25 mEq. of potassium per hour, up to 100 mEq.

Outline of Treatment (Cont.)

SECOND TO SIXTH HOUR: The gravity of the coma may require repetition of first hour's total insulin in the second hour.

- Repeat blood sugar and carbondioxide determinations after three hours. For rising blood sugar give insulin hourly, 50 to 200 units or more, according to prognosis.
- 10. Limit fluids by mouth to 100 to 120 cc. per hour. Broth, ginger ale, orange juice, tea, or coffee may be sipped by patient or spooned by nurse as soon as tolerated. For children, limit fluids to 50 cc. per hour at first. If nausea and vomiting recur, withhold fluids orally for

twelve hours, lavaging stomach again if indicated, and resume.

- 11. Give enema for cleansing and to relieve abdominal distention.
- Record and note changes in blood pressure, pulse, and temperature hourly. Consider transfusion if in deep shock.
- Analyze urine for sugar and diacetic acid every hour. Record hourly output as index of dehydration and renal function.
- Administer an antibiotic—penicillin, streptomycin, or Aureomycin—if needed.

SIXTH TO TWENTY-FOURTH HOUR: Progress of patient must be monitored and insulin administered accordingly.

15. Repeat blood sugar and carbondioxide determinations. Give 50 to 200 units of insulin if blood sugar and carbon-dioxide levels are not improving. Regular insulin may be given according to urine tests every one to four hours if fall in blood sugar has been satisfactory.

Deen satisfactory	
If test is	Give
Red	20 units
Orange	16
Yellow	12
Green	0
Blue	0

For young children give half of above dosage.

16. Give soft or liquid food such as oatmeal gruel, orange juice, or milk diluted half and half with lime water. Do not exceed 10 gm. carbohydrate per hour. Give 5% glucose in saline intravenously only when blood sugar approaches normal.

- 17. Observe urinary output closely and note with alarm any sign of oliguria. Treat with 1,500 cc. intravenous saline if shock persists. Repeat as necessary. For anuria associated with hypochloremia, give 50 cc. of 10% salt solution intravenously. Never give hypertonic glucose solution to promote diuresis. Beware of producing excessive diuresis.
- 18. Sudden onset of muscular weakness and shallow respiration suggest hypokalemia. Potassium may be given orally or intravenously if electrocardiogram or serum potassium changes.

SECOND AND SUCCEEDING DAYS: As patient's condition improves, a return to the standard diabetic diet may be made gradually.

19. Continue soft food. Diet should contain 100 to 150 gm. of carbohydrate, 50 gm. of protein, and 50 gm. of fat. Gradually return to standard diabetic diet with 150 to 200 gm. carbohydrate, 60 to 100 gm. protein, and 60 to 120 gm. fat daily.

Outline of Treatment (Cont.)

ADDITIONAL NOTES

 Differential diagnosis should include the acidosis of diabetic nephropathy in patients with diabetes of long duration. Uremia may result in retention of ketone bodies in the blood plasma, although they may be absent or reduced in concentration in the urine. Examine plasma for acetone by nitroprusside test or quantitate ketone bodies in blood. The plasma acetone test is made by centrifuging 4 cc. of blood in an oxalate tube until clear plasma is obtained. Solutions of 1 in 2, 1 in 4, and 1 in 8 are made with normal saline or tap water. Place 3 drops of undiluted plasma and the 3 dilutions on separate small mounds of acetone test powder. Depth of purple color indicates concentration of acetone and in some cases may be used as a clue to insulin resistance.

Total Ketones in Blood

mg. per 100 cc.

Normal 0 to 5

Nondiabetic uremia 5 to 60

Diabetic coma 50 to 200+

• To avoid pulmonary edema, rarely exceed 5,000 cc. of parenteral fluid in twenty-four hours and check frequently for signs of edema. If urinary output exceeds 40 cc. per hour after parenteral fluid up to 3,000 cc. has

been given, dehydration is no longer grave.

 If serum potassium or electrocardiogram indicates need, 40 mEq. of potassium may be added to the intravenous solution. Potassium should not be given intravenously in excess of 25 mEq. per hour. Rarely is it wise to exceed 80 mEq. in twelve hours except with definite hypopotassemia and ample urine secretion. After twelve to twenty-four hours, if 3 to 4 gm. potassium cannot be taken by the patient in diabetic diet, a simple solution may be taken in divided amounts. Thus 200 cc. of orange juice plus 2 gm. of potassium phosphate may be diluted with water to 500 cc. Of this, 100 cc. is given per hour. With fall in blood sugar and need for potassium, a 5-cc. ampule containing 2 gm. of dibasic potassium phosphate and 0.4 gm. of monobasic potassium phosphate may be added to 1,000 cc. of 5% glucose for intravenous administration if indicated.

• The electrocardiographic signs of low serum potassium—below 3 mEq.—include lowered T waves, depressed ST segments, and lengthened QT or appearance of U wave. Signs of high serum potassium—above 6 mEq.—are high, peaked T waves; wide QRS; disappearance of P waves; and disorganization of electrocardiogram. A normal electrocardiogram does not exclude potassium deficiency.

¶ BEER IN LOW-SALT DIETS FOR CHRONIC NEPHRITIS increases the palatability of the regimen without influencing the course of the disease. Edwin G. Olmstead, M.D., James E. Cassidy, M.D., and Francis D. Murphy, M.D., of Marquette University and the County Hospital, Milwaukee, report that the high-calorie, low-protein, and low-sodium beverage may provide one-fourth to one-third of the calories of an 1,800-calorie diet containing 250 or 500 mg. of sodium but contributes only 45 mg. of chemically assayed sodium. Am. J. M. Sc. 230:49-53, 1955.

Colon Flexure Syndromes

LT. COL. EDDY D. PALMER, LT. COL. DAVID L. DEUTSCH, AND MAJ. NORMAN M. SCOTT, JR., M.C., U.S.A. Walter Reed Army Hospital, Washington, D. C.

Patients with symptoms of cardiac, renal, or severe upper gastrointestinal tract disease may have excess gas in the hepatic or splenic flexure.*

Symptomatically, the hepatic and splenic flexure syndromes differ considerably. With the splenic flexure syndrome (Fig. 1), low left anterior chest discomfort is common and radiates at times to the left renal or flank areas or to the epigastrium.

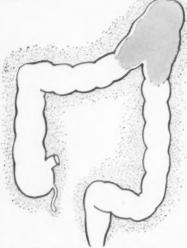


Fig. 1. Collection of gas in splenic flexure

Episodes are acute in onset, last several minutes to a few hours, and are most severe after meals. Anorexia, palpitation, periodic breathlessness, and excess flatus occasionally occur. The patient usually suspects that symptoms are indicative of disease of the heart or left lung.

Hepatic flexure syndrome (Fig. 2) simulates the symptoms of gall-bladder disease. Periodic right upper quadrant pressure is felt and may be severe, crampy, or burning. Severity varies widely, and the discomfort may radiate to the epigastrium, left upper quadrant, right renal area, or right shoulder. Many simple dyspeptic symptoms are noted, especially after meals, and include borborygmi, nausea, fullness, and a desire to belch.

Physical findings with the syndromes are not striking, except that gas accumulations in the splenic flexure can be easily ascertained by percussion.

The radiologic findings of large collections of gas remaining in the hepatic or splenic flexures must be supported by compatible symptoms to be conclusive. Frequently, the symptomatic splenic flexure is found to lie high in the abdomen, against the diaphragm.

*Clinical experiences with the splenic flexure syndrome and the hepatic flexure syndrome, Am. J. Digest. Dis. 22:193-197, 1955. The hepatic flexure syndromemust be differentiated from postcholecystectomy syndrome, biliary dyskinesia, chronic cholecystitis without stones, or chronic liver or biliary tract disease.

The splenic flexure syndrome must be distinguished from gastric ulcer, hiatus hernia, various forms of cardiac disease, or, less frequently, left renal disease, gastric cancer, or pancreatic tumor.

Treatment is difficult since the patient is often skeptical, calculating, and argumentative and will not accept therapy gracefully. Many persons are drifters, and often the general tension, hostility, and self-confidence typical of the ulcer patient are noted.

Psychotherapy is quite important and may require five to ten hours of interviewing. The common colon sedatives, bulk producers, adsorptives, and antispasmodics are of little benefit. For no well-established

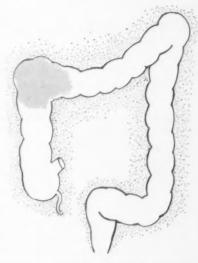


Fig. 2. Collection of gas in hepatic flexure

reason, asafetida, in doses of 0.3 gm. with each meal, produces symptomatic relief in approximately half of patients.

Antibiotic-Induced Staphylococcal Enteritis

B. J. FOWLER, F.R.C.S., DERBY, ENGLAND, reports that postoperative administration of antibiotics to prevent sepsis may cause enteritis from antibiotic-resistant staphylococci. If preoperative colon antisepsis is necessary, poorly absorbed sulfonamides should be administered alone.

Early diagnosis is important, as the infection is usually fatal. Symptoms include sudden and severe diarrhea, vomiting, and collapse. Diagnosis is confirmed when antibiotic-resistant staphylococci are found in the intestinal fluid and gram-positive cocci are noted in a direct smear of the anal discharge.

Intravenous Erythromycin may be of benefit in treating the condition, especially if administered soon after onset of infection. Adequate fluid replacement is essential.

Post-operative staphylococcal enterocolitis during antibiotic therapy. Brit. M. J. 4925: 1313-1315, 1955.

Preparation for Intestinal Surgery

GEORGE D. J. GRIFFEN, M.D., EDWARD S. JUDD, JR., M.D., AND WILLIAM H. DEARING, M.D.

Mayo Clinic and Foundation, Rochester, Minn.

Improving the general health of the patient and cleansing the bowel both mechanically and with antibiotics have increased the safety of elective intestinal surgery.*

Advances in preoperative management have decreased morbidity and mortality and increased extent of intestinal surgery. Resection can be done in 1 or, at most, 2 stages, and continuity can be restored intraperitoneally.

The status of the patient must be assessed. Cardiac and renal function is evaluated, anemia is corrected, adequate hydration is assured, nitrogenous waste products in the blood are lowered if possible, low concentrations of circulating plasma protein are increased, and electrolyte imbalance is reversed. Whole blood transfusion is the most useful measure.

Diet should be as generous as possible until the day of operation. The patient must be ambulatory to prevent postoperative pulmonary embolism from thrombi that may form during a static preoperative period.

The patient should enter the hospital two days before surgery. A low-residue diet and sodium phosphate, 4 drams the first morning

and 2 drams at night, are prescribed to liquefy the stool and promote transport of the bowel contents to areas accessible by enemas.

A day before operation, another 2 drams of sodium phosphate is administered and tap water enemas are begun; 5 irrigations in the morning and 5 in late afternoon are given, using 1 qt. of water each time. If returns are not clear, more enemas are necessary. Rectal aspirations are begun at 6 A.M. the day of surgery and continued every two hours until operation.

Most patients receive a combination of Terramycin and neomycin. Dosages are 1 gm. of neomycin and 0.25 gm. of Terramycin every hour for 4 doses two days before surgery and 1.5 gm. neomycin and 0.25 gm. Terramycin every six hours the day before operation.

Resistance of bacteria, especially *Micrococcus pyogenes*, to the antibiotics is increasing, and enterocolitis from overgrowth of *M. pyogenes* in the colon may occur. Therefore, neomycin is sometimes used alone, though the agent does not consistently eliminate anaerobic organisms from the bowel.

Resistance is most likely to develop when drug therapy is prolonged.

^{*}Preparation of the patient for intestinal surgery. Postgrad. Med. 18:15-20, 1955.

Bleeding Esophageal Varices

ROBERT R. LINTON, M.D.

Massachusetts General Hospital, Boston

Massive bleeding from esophageal varices can be controlled by cardioesophageal tamponade and transpleural transesophageal suture of the lesions; a splenorenal or direct portacaval shunt should be constructed later.*

Obstruction to the flow of portal venous blood into the systemic venous system causes esophageal varices. The portal bed block is intrahepatic with portal cirrhosis and extrahepatic when the portal vein is occluded by a congenital defect or thrombosis. Both types may occur in the same patient.

Portal venous hypertension and hypervolemia develop in addition to the collateral venous pathways and contribute to severe hemorrhage when rupture occurs. The cause of rupture is probably mechanical since the site is practically always in the diaphragmatic portion of the esophagus.

Exsanguination is the chief cause of death with ruptured esophageal varices. Mortality is especially high among patients with cirrhosis of the liver.

When a patient with massive gastrointestinal bleeding is admitted to the hospital, a roentgenogram of the esophagus should be made immediately, using a small amount of

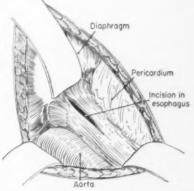


Fig. 1. Exposure of esophagus through left thoracotomy incision

barium suspension. If esophageal varices are demonstrated, hemorrhage should be controlled by cardioesophageal tamponade. The procedure also confirms the diagnosis, since bleeding from gastric or duodenal lesions is not stopped by the tamponade.

A balloon attached to a gastric tube is inserted into the stomach and inflated with air to about 15 cm. in diameter. By exerting 1 kg. of traction on the end of the tube, the balloon is impinged at the cardioesophageal junction.

Tamponade should not be maintained more than twenty-four hours. Multiple transfusions generally restore the blood volume to normal within an hour, and more perma-

^{*}The surgical treatment of bleeding esophageal varices. West. J. Surg. 63:366-377, 1955.

nent control can be obtained by direct suture of the varices through a transpleural transesophageal ex-

posure (Fig. 1).

The lower end of the esophagus and cardia of the stomach are exposed by a longitudinal incision made equally in the esophagus and stomach. The varices are sutured with a running over-and-over stitch using No. 00 chromic catgut on an intestinal atraumatic needle. The suture is extended 4 to 5 cm. up the esophagus and down the same distance to include the cardiac mucosa and submucosal veins. Usually, 2 or 3 columns of veins are isolated and sutured.

esophageal varices should be considered a candidate for some type of portacaval shunt if liver function is good. Serum albumin determination is the most important measure of function; operation should not be performed unless the level is 3 gm. or above. Status of the liver should be evaluated also by the cephalin flocculation test, prothrombin time, serum bilirubin level, and bromsulphalein retention test.

Persons with ascites generally cannot synthesize sufficient serum proteins, particularly albumin. Portacaval shunt operations should not be done for ascites alone.

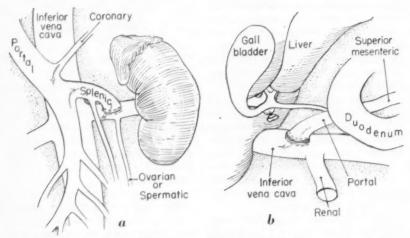


Fig. 2. Portacaval shunts: [a] splenorenal shunt and [b] direct portacaval shunt

Transpleural transesophageal suture of bleeding esophageal varices was done twenty-four times for 23 patients. Only 1 death was related to the procedure, and the operation produced improvement in 83% of the patients.

Every individual with bleeding

Splenectomy with an end-to-side splenorenal anastomosis is preferable for most patients. Splenectomy alone should never be performed unless the surgeon is prepared to construct a splenorenal anastomosis at the same time. The operation may be the only opportunity to

construct a satisfactory shunt, especially if the patient has Banti's syndrome (Fig. 2).

A total of 120 shunt operations were performed for 116 patients. The over-all operative mortality was 12.5%, but for the last 79 opera-

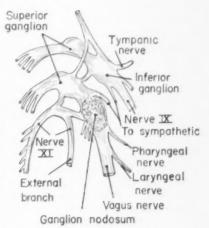
tions the mortality rate was about 6%. Most patients had intrahepatic portal bed block, and the splenorenal shunt operation was performed most frequently. Of 74 patients observed for one to seven years, about 90% are in good health.

Tumor of the Vagal Body

SHELDON OSCAR BURMAN, M.D., POSTGRADUATE MEDICAL SCHOOL OF LONDON, calls attention to vagal body tumor as a diagnostic possibility in the patient with a posterolateral pharyngeal mass. The vagal body lies on the ganglion nodosum of the vagus nerve immediately below the jugular foramen at the base of the

skull (see illustration). The vagal body is related to the Superior chemoreceptor system, and a tumor of the vagal body is properly termed a chemodectoma. The less rare carotid body and glomus jugulare tumors are similar histologically.

A painless mass deep in the upper cervical area between the angle of the mandible and the mastoid process is the most prominent characteristic of vagal body tumor. The lateral pharyngeal wall may be displaced inwardly with consequent dysphagia. Most chemodectomas do not metastasize



widely but usually are indolent, slow-growing lesions with occa-

sional local invasion. Mitoses are rare, and the growth is often well encapsulated.

The tumors are completely radioresistant, and the treatment is wide local excision, with sacrifice of involved nerves if necessary. Adequate exposure of the tumor is difficult, and partial removal of the mastoid process is helpful. Because of the vascular nature of the lesion and the nearness of the carotid and jugular vessels, adequate whole blood replacement should be available. Sacrifice of the recurrent laryngeal nerve is probably unavoidable.

The vagal body tumor. Ann. Surg. 141:488-498, 1955,

Small and Large Bowel Obstruction

MARSHALL L. MICHEL, JR., M.D., L. TERRELL TYLER, M.D., ROBERT H. LEPERE, M.D., AND RICHARD A. MATORELL, M.D. Tulane University, Charity Hospital, and Touro Infirmary, New Orleans

Obstruction of the small intestine should be differentiated from that of the colon, particularly because of differences in treatment.*

Intestinal obstruction can be classified as mechanical, neurogenic, or primary vascular. Small intestinal obstruction is 5 to 6 times as common as large bowel obstruction. Although small intestinal obstruction may occur in any age group, colonic obstruction is limited mostly to older patients. The mortality rate for small bowel obstruction is 4%, and the rate for large bowel obstruction is 16%.

Etiology of small bowel blockage differs greatly from that of colonic obstruction. Postoperative adhesions, external hernia, or intussusception is responsible in most instances of small bowel obstruction. On the other hand, primary carcinoma is reponsible for about two-thirds of colonic obstructions. Primary volvulus and enterocolitis are also causative factors. Foreign bodies, atresia, internal hernia, and mesenteric thrombosis may cause either type of obstruction.

Chemical imbalance is noticeable more often with small bowel obstruction, but perforation and peritonitis are more likely with colonic obstruction. The most frequent sites of obstruction are the middle and terminal ileum and the left colon.

Whereas onset of symptoms is acute and violent with small bowel obstruction, colon obstruction is more insidious. Abdominal distention is usually greater with the latter except when the right colon is obstructed. Gangrene, nausea and vomiting, and expulsion of flatus or feces are more frequent with small intestinal blockage.

Patients with colonic obstruction have anemia and low blood volume primarily because of the carcinoma or some other longstanding obstructive lesion. However, the chemical imbalance and hemoconcentration occurring with small bowel obstruction are due to the acute obstruction.

Roentgenograms aid in differentiation, and a barium enema should be made if the colon is thought to be obstructed.

Ordinarily, small intestinal obstruction warrants a direct surgical attack, while colonic obstruction requires immediate surgical decompression and later removal of the obstructing lesion.

Early surgery for small bowel

^{*}Intestinal obstruction. Mississippi Doctor 33:1-7, 1955.

obstruction is performed with adequate electrolyte infusions and blood transfusions from the time of admission through the postoperative period.

The bowel is decompressed by long intestinal intubation and, if necessary, by needle aspiration during surgery. Long intubation should not be used as a substitute for operation. Since exteriorization resection is rarely done, continuity is reestablished after any bowel resection.

Administration of morphine and high concentrations of oxygen and application of abdominal heat assist in combating distention. Massive doses of antibiotics are given, especially if strangulation or perforation has occurred.

Nonoperative treatment is permissible only for early postoperative adhesive obstruction and for recurrent adhesive obstruction with no signs of strangulation. The patient always must be carefully observed.

Initial resection for colonic obstruction is performed only for a gangrenous volvulus of the sigmoid, mesocolic thrombosis with gangrene, perforated and obstructing cancer, or early right colon obstruction in good-risk patients.

Proximal decompression is the usual aim of early surgical intervention. Transverse loop colostomy is performed for left colon obstruction. Ileo-transverse colostomy, with or without cecostomy, is done for an acute obstructing neoplasm of the right colon.

Sigmoidal volvulus without vascular changes can often be temporarily corrected by proctosigmoidoscopic intubation, but right and transverse colon volvulus require immediate surgical detorsion and fixation. Colocolic and ileocolic intussusceptions are treated by surgical release of the obstruction.

Management of Posterior Mediastinal Goiter

KENNETH N. MORRIS, M.D., ALFRED HOSPITAL, MELBOURNE, AUSTRALIA, believes that small posterior mediastinal goiters can be excised by the standard cervical operation but that a combined cervical- and sternum-splitting approach is necessary when the tumor is large.

If a small goiter is demonstrated radiologically, a collar incision Is made. The thyroid gland is delivered into the neck by traction upon the intrathoracic extension, and the tumor is excised.

When the tumor is large, a sternum-splitting incision is added to the cervical procedure. The sternum is widely retracted, and the pedicle which connects the cervical and thoracic portions of the thyroid gland is then traced down to the apex of the goiter. The great vessels are carefully displaced, and the tumor is brought up and excised.

Posterior mediastinal goitre. Australian & New Zealand J. Surg. 24:241-250, 1955.

Rectal and Pelvic Colon Cancers

JOEL W. BAKER, M.D., LESTER H. MARGETTS, M.D., AND ROBERT P. SCHUTT, M.D.

Mason Clinic, Seattle

Although the size and microscopic grading influence the extent of resection for rectal and colonic cancers, a few lesions will always be excised too conservatively while other tumors are resected too widely.*

Carcinoma of the rectum below the lateral reflection of the pelvic peritoneum is uniformly treated by the Miles combined resection. The extent of proximal resection in the Miles procedure, however, is not standardized.

Total left colectomy with periaortic lymph node dissection, division of the inferior mesenteric artery at its origin, and a colostomy at the left transverse colon is often the preferred operation. Increasing the proximal dissection in this modification of the Miles operation permits a wider lymph node excision and does not add to the overall morbidity.

For left colonic lesions above

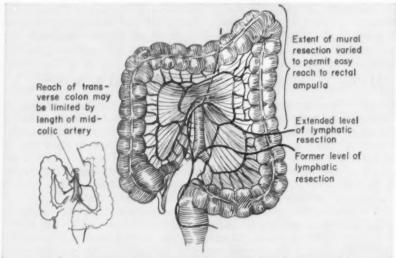


Fig. 1. A portion of the splenic flexure may have to be preserved in left colectomy to accomplish a safe anastomosis without tension.

*The distal and proximal margin of resection in carcinoma of the pelvic colon and rectum. Ann. Surg. 141:693-706, 1955.

the level of the rectosigmoid, the nearest thing to total left colectomy is done that will permit a rectocolic anastomosis. Occasionally a segment of proximal left colon must be preserved to effect the low anastomosis, but ablation of the entire left colon is usually accomplished. The limiting factor is the length of the midcolic artery, which may be too short for sacrifice of the splenic flexure (Fig. 1).

A high splenic flexure can often best be mobilized by dividing the peritoneal reflection of both the left transverse colon and the descending colon.

For the small, differentiated polypoid cancer without infiltration or evident lymph node metastasis, a more conservative resection may be employed. The fallacy of a small operation for a small cancer is recognized, but indications exist for the pie-wedge colonic resection.

At the time of operation the remaining accessible colon is searched for polyps (Fig. 2). Endoscopic examination at the table is

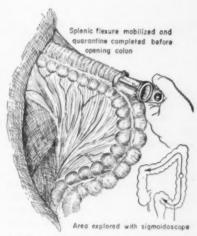


Fig. 2. Endoscopy is performed at the time of operation

urged because of the high incidence of satellite polyps at a distance from the primary lesion.

Even the best of contrast studies can miss small polyps and cancers. Suspicion should especially be aroused if the resected specimen contains lesions other than the primary cancer.

Anatomic Guide to the Cystic Artery

RUBEN RAMIREZ-FLORES, M.D., HOSPITAL LATINO-AMERICANO, PUEBLA, MEXICO, reports that the cystic gland remains constant between the neck and body of the gallbladder regardless of existing disease and therefore is a reliable guide for identification and ligature of the cystic artery during cholecystectomy. The artery almost always enters the gallbladder within 5 mm. of the cystic gland, usually at the superior or cystic pole.

Even when the artery is obliterated by acute cholecystitis or empyema, careful dissection near the neck of the gallbladder reveals the cystic gland with the artery nearby.

A new anatomic guide for safe ligation of the cystic artery. Surg., Gynec. & Obst. 100:633-635, 1955.

Surgery for Uterine Prolapse

HOWARD C. STEARNS, M.D. University of Oregon, Portland

The choice of operation for descensus uteri depends upon the patient's age, health, and desire for children as well as coexisting disease.

Since uterine prolapse is a form of hernia, permanent surgical cure depends upon utilization of knowledge of the normal supports of the uterus in a well-designed operation. The chief structures holding the uterus in position are the cardinal or transverse cervical ligaments arising from the muscles and fascia of the posterior lateral pelvis (Fig. 1).

Broad and uterosacral ligaments offer definite but less secure support, while round ligaments are of least value (Figs. 1 and 2).

In the etiology of the condition, 3 factors are important: [1] constitutionally inadequate supporting structures; [2] advanced age with attendant atrophic changes of uterine supports; and [3] trauma. Childbearing is the principal traumatic influence, although prolapse may occur in women who have never borne children.

The 3 most useful operations for correction of uterine prolapse, in

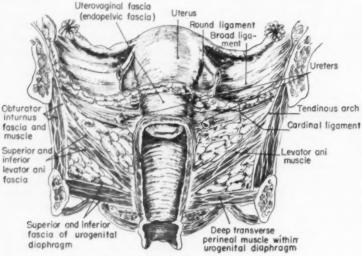


Fig. 1. Coronal section of pelvic anatomy

*Surgical treatment of prolapsus uteri. West. J. Surg. 63:420-427, 1955.

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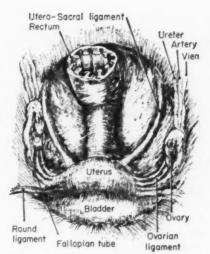


Fig. 2. Anterior view of pelvic anatomy

the order of importance, are: [1] vaginal hysterectomy; [2] the Manchester operation; and [3] the Le Fort operation. Each has certain advantages and disadvantages. Unless entry of the abdomen is necessary, all pelvic repairs should be performed through the vagina.

Vaginal hysterectomy is preferred for most patients since the operation solves the problem most directly and eliminates such future disorders as bleeding or cancer.

Enterocele, cystocele, urethrocele, and rectocele can be satisfactorily repaired at the same time and yet leave a deep functional vagina with adequate vault support. Disadvantages of hysterectomy include prevention of further childbearing and a higher postoperative morbidity than less extensive procedures. Postoperative enterocele is also more common than after the Manchester procedure. Generally, vaginal hysterectomy is done when the quota of desired children is definitely filled and the patient is a good risk.

The Manchester operation can be done in women of childbearing age if 2 cm. of cervix is retained to prevent abortion. The operation is shorter and less traumatic than vaginal hysterectomy. Postoperative hemorrhage from the cut and ligated cardinal ligaments and the surface of the remaining cervix is not uncommon and pyometra may also occur.

The Le Fort operation is limited in usefulness, but in the very elderly debilitated patient with complete eversion of the vagina and no evidence of uterine cancer, this procedure may be superior to any other.

INOPERABLE OVARIAN CANCER may be ameliorated by treatment with the polyfunctional alkylating agent, triethylene melamine (TEM). Of 26 patients with histologically diverse lesions, M.P. Sykes, M.D., and associates of Cornell University, New York City, and Duke University, Durham, N.C., report that 1 has had no evidence of recurrence for four years, 8 have shown signs of regression, and 5 others have experienced symptomatic improvement. The drug was given daily in oral doses of 2.5 to 5 mg. or in intravenous infusions in 3 or 4 doses of 0.04 mg. per kilogram.

Surg., Gynec. & Obst. 101:133-140, 1955.

Uterine Sarcomas: Diagnosis and Therapy

GILBERT A. WEBB, M.D.

University of California, San Francisco

Surgery is probably preferable to irradiation for treatment of leiomyosarcomas, but the 2 therapeutic methods may be combined in management of endometrial stromal sarcoma, mixed mesodermal sarcoma, and carcinosarcoma.*

The uterine sarcomas are a heterogeneous group of uncommon, very malignant neoplasms of mesodermal origin. The group includes leiomyosarcoma, endometrial stromal cell sarcoma, mixed mesodermal tumors, carcinosarcoma, angiosarcoma, and lymphosarcoma.

Sarcomas occur at any age, including the extremes of life. The incidence is no higher among parous than nonparous women.

The symptoms of sarcoma are similar to those of most benign and malignant diseases of the pre- and postmenopausal ages. Postmenopausal or menometrorrhagial bleeding is the most common manifestation. If a patient has climacteric bleeding, a negative curettage does not exclude the possibility of malignant disease.

Abnormal vaginal discharge and passage of tissue per vagina may occur. A rapidly enlarging abdominal mass or, in an infant, a mass at the introitus is significant. Pain is rare.

Physical examination may reveal a cervical tumor or a polypoid mass in the cervical os, an enlarged uterus, or a large pelvic or abdominal mass. Except for cervical masses, no physical findings are specific for sarcoma.

A roentgen study should be made before operation is performed for fibroids. Lung metastasis with sarcoma is the cannon-ball type.

Rapid growth of fibroids may suggest the diagnosis, and, occasionally, diagnostic curettage reveals a sarcoma, but the diagnosis usually must be established by pathologic study.

Before definite treatment is given, diagnosis should be established by biopsy and histologic examination of all specimens. Hysterectomy should not be done before polypoid structures on the cervix or in the cervical canal are excised or biopsied.

The best therapy for leiomyosarcoma is early surgical removal while the sarcoma is still confined within the myoma. Total hysterectomy is not recommended for all patients with leiomyoma, but the uterus should be opened at the time of surgery. Any uterus containing leiomyomas that cause symptoms and do not follow the usual growth pattern should be removed. Addi-

^{*}Uterine sarcomas. Obst. & Gynec. 6:38-50, 1955.

tion of external irradiation is evidently not beneficial.

Diagnosis of sarcomatous change in leiomyoma from the gross specimen is difficult, but suspicion can be aroused. Leiomyosarcomas develop most commonly after the menopause. Distant metastasis is frequent with the lesion.

The treatment for endometrial stromal cell, mixed mesodermal, and carcinosarcoma is radical surgery with postoperative deep roentgen-ray irradiation. These tumors spread locally first, and general and lung metastases occur later.

Among 42 persons with uterine sarcomas, 22 had leiomyosarcomas, 7 had endometrial stromal sarcomas, 8 had mixed mesodermal sarcomas, and 5 had carcinosarcomas. No patients with lympho- or angiosarcomas were observed. The average delay from the onset of symptoms to diagnosis was between three and five months for all types of sarcoma.

About 12% of the patients had had previous irradiation. Another primary malignant disease was associated with 19% of all the lesions and 27% of the leiomyosarcoma; in 2 instances the other disease was the cause of death.

The over-all five-year survival was 28%. The mortality rate for the first year after diagnosis was 52%. Recurrence is unlikely if a patient survives for three years after treatment.

Therapy for Cervical Erosion

I. PHILLIPS FROHMAN, M.D., WASHINGTON, D.C., recommends a 75% solid mass silver nitrate applicator stick rather than electrocautery for the treatment of erosions of the cervix. The procedure is painless, unlikely to produce stenosis, and does not cause bleeding or malodorous slough.

Silver nitrate is applied to the entire eroded area and all bleeding points until the eroded tissue is completely covered with a grayish-white coagulum. The application is begun just at but not in the circumference of the cervical os and continued peripherally with gentle pressure, overlapping ½ in. of normal-appearing tissue. Usually 1 applicator stick is sufficient; in case of profuse discharge, bleeding, and a thickened, edematous cervix, 2 sticks may be necessary.

The patient is instructed to douche after twenty-four hours and at bedtime, using 2 tsp. of lactic acid in 2 qt. of warm water. The douches are repeated each morning until the next appointment. Abstinence from sexual intercourse is required.

The patient returns after four to five days and the cervix is again treated. Douches are continued. After the second treatment, the patient is seen at weekly intervals until the erosion has completely healed.

Treatment of cervical erosion, GP 11:69-73, 1955.

Uterine Denervation for Dysmenorrhea

JOSEPH BERNARD DOYLE, M.D. Tufts College, Boston

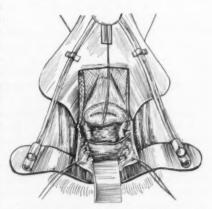
Transection of the uterosacral ligaments permits sensory denervation of the cervix, fundus, and proximal portions of the tubes and provides relief of dysmenorrhea.*

Although primary dysmenorrhea is benefited by sedation, rest, hygiene, and the production of anovulation by estrogens or testosterone, acquired dysmenorrhea is less readily relieved. However, denervation of the uterus is often beneficial.

The sensory parasympathetic fibers to the cervix and the sensory sympathetic fibers to the fundus traverse the cervical division of the uterovaginal plexus of Lee-Frankenhäuser which lies in, under, and around the attachments of the uterosacral ligaments to the cervix. An incision made through the posterior vaginal fornix and terminal 2.5 cm. of the uterosacral ligaments transects and interrupts not only the fundal but also the cervical sensory fibers. Neuromuscular and neurovascular autonomic imbalance is avoided, since both the sympathetic and the parasympathetic pathways are interrupted.

The procedure may be done during either culdotomy or laparotomy. If the procedure is done vaginally, the posterior fornix is incised transversely and the peritoneum opened. The vaginal mucosa is dissected from the lateral aspects of the uterosacral ligaments. A curved clamp is used to grasp the cervical attachment of the right uterosacral ligament, and another longer clamp grasps the entire width of the ligament 2.5 cm. below the upper clamp. Scissors are used to resect the wedge of ligament between the clamps. Mattress sutures of No. 1 chromic catgut then replace the clamps.

To prevent regrowth of the nerves, the posterior leaf of the



After ligation of uterosacral ligaments and nerves, the proximal stumps are buried by suturing the peritoneum over the cut ends to the vagina

*Paracervical uterine denervation by transection of the cervical plexus for the relief of dysmenorrhea. Am. J. Obst. & Gynec. 70:1-16, 1955.

peritoneal incision is bisected vertically, and the mobilized segments are sutured over the ends of the proximal stumps of the uterosacral ligaments and firmly sutured to the submucosal fascia of the top of the vagina (see illustration).

In order to prevent enterocele or retroversion of the uterus, the uterosacral ligaments may then be drawn against the cervix and incorporated in the purse-string suture to close the peritoneum. The vaginal incision is closed by fine No. 000 plain catgut sutures.

If endometriosis is suspected or if gross abnormalities such as fibroids can be felt, the abdominal route is preferred. The uterosacral ligaments are brought upward by placing a suture just above the point of insertion into the cervix. Traction is then applied.

The ureters usually lie about 1 to

2 cm. laterally to the ligaments. Each ligament is clamped close to the cervix by a long, curved clamp, and another clamp is placed obliquely 1.5 to 2.5 cm. proximally. The intervening ligament is resected deeply down to the top of the vagina. Mattress sutures are placed and the clamps removed. The intervening peritoneum behind the cervix is cut across. By blunt dissection with gauze pledgets and gentle vacuum suction, the deep nerve fibers can be visualized and transected down to the vagina both medially and laterally to the ligaments. The proximal uterosacral ligament stumps are then buried within the neighboring peritoneum.

Acquired dysmenorrhea with or without primary dysmenorrhea was relieved in 69 of 73 patients. None had loss of orgasm or interference with bowel or bladder function.

Vaginal Bleeding after Total Hysterectomy

DAVID J. ROSE, M.D., JOSEPH A. WALLACE, M.D., AND SOLO-MON KAPLAN, M.D., MOUNT SINAI HOSPITAL, NEW YORK CITY, state that vaginal bleeding immediately after abdominal total hysterectomy necessitates exposure of the vault.

Brisk bleeding, generally visualized in the vaginal cuff from either angle or the midportion, is noted after almost 1% of abdominal total hysterectomies. Hemorrhage is caused by inadequate hemostasis, usually from inversion of a piece of vaginal mucosa or poor apposition of mucosal edges during suturing.

The patient should be returned to the operating room. If therapy has been delayed several hours, whole blood should be administered. After the vault is exposed, the bleeding point is easily sutured.

Occasionally, the bleeding is from the descending branch of the uterine vessels cephalad to the cuff vessels and correction from below is difficult.

Postoperative vaginal bleeding immediately following total abdominal hysterectomy. Obst. & Gynec. 4:653-657, 1954.

Use of Glucagon in Pediatrics

MERL J. CARSON, M.D., AND RICHARD KOCH, M.D. University of Southern California, Los Angeles

A low glucagon or adrenalin tolerance curve is helpful in establishing the diagnosis of glycogen storage disease but a normal response to either test does not exclude the diagnosis.*

GLUCAGON is a hyperglycemicglycogenolytic product of the pancreas presumably elaborated by the alpha cells of the islets of Langerhans. Chemically, glucagon is a protein polypeptide closely allied to crystalline insulin. The hyperglycemic action of the substance results from a direct glycogenolytic action in the liver.

In normal children, glucagon produces a consistent rise in blood sugar ranging from 22 to 68 mg, per cent. The peak is reached thirty minutes after subcutaneous administration. A substantial elevation may be detected within ten minutes after the injection.

The standard dose is $20 \mu g$, per kilogram of body weight. Doubling this dose fails to increase the hyperglycemic response. However, the use of ACTH or adrenalin definitely potentiates the hyperglycemic action. Simultaneous administration of glucagon and adrenalin produces hyperglycemia approximately twice the peak value obtained with each substance alone and lasting much

longer than with each individually. The cardiovascular effects of adrenalin, such as tachycardia or vasoconstriction, are not inhibited by the simultaneous use of glucagon.

Glucagon exerts a definite antiinsulin effect. A drop in blood sugar caused by the injection of a test dose of insulin will be completely reversed by glucagon, and a slight hyperglycemia results. If the substances are given simultaneously, a definite hyperglycemia will occur with no drop observed initially.

Glucagon will also produce an immediate rise in blood sugar in children with spontaneous hypoglycemia. These children are ordinarily unable to mobilize enough blood sugar to relieve symptoms during a hypoglycemic convulsive episode. Glucagon will accomplish the action and raise the blood sugar, even in the presence of exogenous insulin.

A normal glucagon tolerance curve is found with spontaneous hypoglycemia. The use of ACTH gel in a dosage of 1 mg. per kilogram of body weight per day prolongs the initial hyperglycemic response. Multiple doses of glucagon may be used to terminate hypoglycemic convulsions in these children.

[°]Clinical studies with glucagon in children. J. Pediat. 47:161-170, 1955.

The action of glucagon in a patient with liver disease is variable. Children with cirrhosis, whether from biliary atresia or unknown causes, and a child with a hamartoma replacing most of the liver fail to show the normal hyperglycemic response to glucagon. A rise in blood sugar may be noted in such children but is below the response demonstrated in normal controls.

Inspissated bile syndrome and acute hepatitis, even with rather severe icterus, will demonstrate a normal glucagon response.

The glucagon response in glycogen storage disease is quite variable. A specific deficiency of glucose-6phosphate accounts for some cases, but structural abnormalities of the glycogen may be an etiologic factor.

The glucagon response will be abnormal in about half of the children with glycogen storage disease. These children have low glucagon tolerance curves.

Glucagon may be administered either subcutaneously or intravenously. However, the response subcutaneously is fairly rapid and the intravenous route is seldom employed. As little as 10 μ g. may produce significant rise in blood sugar. In contrast to adrenalin, glucagon has little if any effect on muscle glycogen. All action is in the liver.

Glucagon and adrenalin also differ in the glycogenolytic response when dihydroergotamine is used simultaneously. DHE is an adrenergic blocking agent which inhibits the action of adrenalin but not of glucagon.

Glucagon is relatively nontoxic, although nausea and vomiting without hypoglycemia may occur after a prolonged intravenous drip in the dosage of 20 µg. per kilogram of body weight per hour. Rarely, itching is noted at the site of injection.

The action of glucagon is shortlived. Once liver glycogen stores are released, the glucagon is relatively inert. This short action makes the substance unsuitable for the treatment of spontaneous hypoglycemia.

No cumulative effect is observed with intermittent injections every three to four hours. Continuous intravenous drip fails to maintain the initial blood sugar elevation.

¶ TUBERCULOUS PERITONITIS in children may be successfully treated with isoniazid given in daily doses of 5 mg. per kilogram of body weight. H. Shukry, M.R.C.P., and S. Awwaad, M.D., of the Abbassia Faculty of Medicine, Cairo, observe that the drug also promoted healing of skin abscesses with discharging sinuses and regional lymphadenitis caused by BCG vaccination. Complete cure resulted within six to ten weeks among 12 of 15 patients with abdominal disease and within one week in 3 instances of vaccinal complications.

Am. J. Dis. Child. 89:685-688, 1955.

Etiology and Therapy of Enuresis

HARRY BAKWIN, M.D.

New York University-Bellevue Medical Center, New York City

Involuntary passage of urine after the third year of life is in most instances based on an inborn structural defect.*

Hereditary factors are of great importance in the etiology of enuresis. In many instances, a familial tendency is noted in one or both parents and in siblings. The socio-economic status also may be a contributing circumstance, since enuresis is more frequent in underprivileged children. Mental retardation, except when extreme, is not a prominent element.

Although enuresis is often regarded as a behavior disturbance, considerable evidence supports an organic basis. The condition ap-



The male urethral tract

pears early in life, most of the children do not appear to be emotionally unstable, and urgency usually persists throughout life. Urine of enuretic persons may have a lower specific gravity during the night than during the day, the reverse of normal, and patients may void much larger amounts of urine at night than do normal individuals.

Urologic studies have demonstrated such anatomic changes as inflammatory lesions of the urethra. trigone, prostate, and verumontanum; congenital obstructions along the urethra; foreshortening of the trigone; hypertrophy of the verumontanum; elevation of the inferior margin of the internal urethral orifice: and excavation or depression between the internal urethral orifice and the proximal end of the verumontanum. Frequent findings in boys are valves of the posterior urethra and neurogenic disorder of the bladder, and in girls a wide bladder neck and neurogenic bladder.

Abnormal electroencephalographic tracings are seen in a larger proportion of children with enuresis than in groups of children with neurotic traits.

The bed is generally wet every night. Wetting after a long interval of being dry may occur because

^{*}Enuresis. Pediat. Clin. North America, August 1955, pp. 819-825.

the child is no longer taken to the toilet nightly. Wetting may also begin after an infection or head injury. Day wetting occurs in about 40% of patients.

Differential diagnosis includes regressive behavior, gross urologic disease, diabetes mellitus, diabetes insipidus, epilepsy, spina bifida, and congenital obstruction of the urogenital tract. Cystitis or vesical calculus is suggested by sudden onset of frequency, urgency, painful micturition, and red or white cells in the urine. A congenital obstructive lesion should be suspected when the urinary stream is small, starting the stream is difficult, dribbling occurs, and white cells are found in the urine. Early recognition of the condition is essential to prevent future damage.

Psychologic management of enuresis should begin with a full explanation of the condition to the parents. The inherited origin of the condition, from one or both of the parents, should be stressed along with the information that undesirable attitudes such as shamings, threats, and punishment are not only useless but may be harmful and also may intensify the condition. Explanations to the parents

are best made in the presence of the child. The parents should give encouragement and reassurance at home.

Belladonna may be quite effective when used over a long period. Dosage must be adequate, but since idiosyncrasy may occur, amounts should be increased gradually. A safe initial dose for a child over 5 years of age is 10 drops of the tincture. The drug is given three times a day or only at bedtime depending upon whether urgency and wetting occur during the day or only at night. The dosage may be increased each day by one drop per dose until a therapeutic or toxic effect is noted. The most common symptom of intoxication is flushing. The drug should be continued for a period after enuresis ceases to establish training and then withdrawn gradually. Thorazine also may be effective.

Training should be combined with the drug therapy. Limitation of fluids in the late afternoon may be helpful. The child should be awakened completely once or twice each night at a fixed time and walked to the toilet. The use of rewards is often effective for young children.

¶ IMMUNIZATION OF ALLERGIC CHILDREN with diphtheria, pertussis, and tetanus antigens is safe, report Salmon R. Halpern, M.D., and Doris Halpern, R.N., of the University of Texas and the Children's Medical Center, Dallas. The usual methods of inoculation may be employed during the first few years of life, but highly sensitive older children should receive small, frequent intramuscular or intradermal injections. None of 15 patients with convulsions after DPT inoculation had had allergic disorders.

J. Pediat. 47:60-67, 1955.

Recovery with Erythroblastosis Fetalis

CAROL B. HYMAN, M.D., AND PHILLIP STURGEON, M.D.

Los Angeles Children's Hospital and University of Southern
California, Los Angeles

Understanding the natural course of convalescence in erythroblastosis fetalis eliminates unnecessary blood transfusions.*

Hemoglobin values of infants with erythroblastosis fetalis decrease during the first two months of life, regardless of therapy. With the rapid growth of the infant, total body hemoglobin starts to rise while peripheral blood hemoglobin is still falling or has reached a plateau. Total body hemoglobin is calculated on the basis of hemoglobin concentration in 40 cc. of blood per pound of body weight.

Low hemoglobin levels after the acute hemolytic period are the result of the infant's rapidly increasing mass and blood volume rather than further abnormal blood destruction. The increase in total body hemoglobin during this stage illustrates that the infant is producing red blood cells. Transfusions are unnecessary during the late anemic period unless blood hemoglobin falls to critical levels. Values between 6 and 8 gm. per 100 cc. are usually safe.

Bone marrow examinations reveal no characteristic pattern of erythropoietic activity. Percentages of normoblasts demonstrate the same scatter as in healthy infants.

Delay in reticulocytosis and in return of Rh test to positive shows that an initial aregenerative period occurs. Reticulocytes decrease during the first week of life and start to increase during the fourth week. After exchange transfusion with Rhnegative blood, the Rh test remains negative for nineteen to thirty-nine days. The change is noted between the twenty-sixth and seventy-fifth days when small multiple transfusions are given. Rh typing becomes positive when 12.5% of cells are Rh positive.

The direct antiglobulin (Coombs) test becomes negative after varying intervals of time. The reaction may disappear immediately after exchange transfusion with Rh-negative blood. With multiple small transfusions the reaction may remain positive for three months. A negative posttransfusion antiglobulin reaction occasionally returns to positive for a short time when the baby begins producing red cells.

Free or serum antibodies are decreased or completely removed by exchange transfusion. After repeated small transfusions with Rh-negative cells, free antibodies may be demonstrable for two months.

Hematologic changes of 20 infants with D (Rh_o) incompatible

^{*}Observations on the convalescent phase of erythroblastosis fetalis. Pediatrics 16:15-23, 1955.

erythroblastosis fetalis were studied during the convalescent stage. All patients under 24 hours of age received an exchange tranfusion. Alternate infants were given Rh-negative and Rh-positive major group specific blood. Infants over 1 day of age on admission received multiple small transfusions with Rhnegative sedimented cells.

In addition, small transfusions were given if the hemoglobin was under 15 gm. per 100 cc. on the day of discharge. Babies were seen in the clinic for four to six months after therapy.

Jimson Weed Poisoning in Childhood

JOE E. MITCHELL, M.D., AND FRED N. MITCHELL, M.D., UNIVERSITY OF VIRGINIA, CHARLOTTESVILLE, report that jimson weed (*Datura stramonium*) poisoning occurs as frequently as lead, barbiturate, alcohol, rodenticide, and insecticide poisoning in children. The fatal dose is apparently about 4 to 5 gm. of the crude leaf or seed.

Jimson weed grows wild and is found in weed patches and along the roadside throughout the United States and in most parts of Europe, Asia, Africa, and South America. The plant may reach 3 to 6 ft. in height and has a fetid odor. The leaves are large, dark green, sessile, pointed with a deeply indented margin, and have a bitter taste. The flower, which is white and trumpet-shaped, blooms from May to July and produces a 4-valved capsule which contains many tiny, flattened, brown-black seeds with a central attachment.

The alkaloids hyoscyamine, atropine, and hyoscine are contained in every part of the weed, including the seeds. The initial reaction is hyperirritability and delirium which may progress to convulsive movements and terminate in coma. Dilated pupils, intense skin flushing, and extreme excitability are common. Other disturbances include picking movements, incoherent speech, loss of memory, tachycardia, urine retention, and poor visual accommodation. Acute symptoms usually subside within twenty-four to forty-eight hours, but mydriasis may persist a week or more.

When the patient is seen early after ingestion of the weed, gastric lavage with tannic acid or dilute tincture of iodine (30 drops in 1 pt. of water) precipitates the alkaloid remaining in the stomach. During the delirious stage, maniacal behavior and convulsions may be controlled with small doses of short-acting barbiturates or paraldehyde. Stimulants such as benzedrine may be required for central nervous system depression. Parenteral fluids should be given to maintain water and electrolyte balance.

Jimson weed (Datura stramonium) poisoning in childhood. J. Pediat. 47:227-230, 1955.

Persistent Urinary Infections

GRAYSON CARROLL, M.D. St. John's Hospital, St. Louis

Selection of the proper drugs is essential for successful management of persistent urinary tract infections in infants and children.*

When chronic urinary infection persists in spite of antibiotic therapy, the drug being used is not suitable to inhibit growth of the infecting organism. The organism should be identified by urine culture.

Some of the causative organisms may be recognized by behavior of the disease before a cultural identification can be made available.

The Staphylococcus (Micrococcus) is frequently borne by the blood from skin lesions, throat, tonsils, sinuses, and respiratory infections, and may produce pyelone-phritis or perinephritic abscess. During the acute stage of pyelone-phritis, the patient has fever and

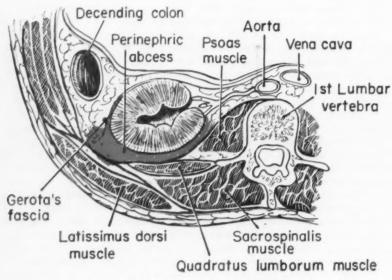


Fig. 1. Perinephritic abscess

[°]Chronic urinary infections in infants and children. Pediat. Clin. North America, August 1955, pp. 781-791.

unilateral tenderness with or without pus in the urine. If therapy is not prompt and vigorous, the disease may become chronic and renal damage may be permanent.

Perinephritic abscess (Fig. 1) causes tenderness over the superior lumbar triangle, fever, and chills. The psoas shadow is not evident on roentgenograms. Urine culture is often negative. Incision and drainage is not always necessary.

Most staphylococci are now resistant to penicillin, and Erythromycin becomes ineffective after being used in a locality for five months. Concomitant use of Erythromycin and streptomycin may prevent drug resistance. A teaspoonful of Ilotycin pediatric may be given three times daily and at bedtime; drops are used for infants. Streptomycin solution, 0.5 cc., may be injected intramuscularly each day. Terramycin oral drops, 100 mg. three or four times daily, may be given in milk if the organism is sensitive to the agent.

The Enterococcus may be identified by growth on eosin-methylene blue agar. The organism is resistant to many drugs and is best eradicated with Mandelamine or Terramycin.

Proteus infection should be diagnosed when urine is persistently alkaline and shows a bacillus by microscopic examination. The Proteus is often introduced by instrumentation or direct contamination from feces and spreads to the urethra, bladder, and kidneys, causing a continuous low-grade infection. Encrustations formed in a nephrostomy tube or bladder cath-

eter are caused by *Proteus* and can be eradicated only by elimination of the organism, not by an acidified diet or by medication.

Furadantin, if tolerated, is the drug recommended. Drops in milk may be prescribed for babies. Gantrisin is also effective and can be used over a long period. For severe infections, Chloromycetin should

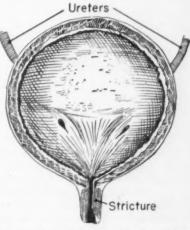


Fig. 2. Strictured and sclerotic urethra

be used. Dosage for all the agents is 1 tsp. three to four times daily. The initial dose of Furadantin should be 2 tsp. Chloromycetin may be given intramuscularly.

Pseudomonas infection most commonly occurs after instrumentation or fecal contamination. Of 67 strains of the organism, 65 are sensitive to polymyxin B only. However, the combination of streptomycin and oxytetracycline is also effective.

Aerobacter aerogenes should be combated with tetracycline. Achro-

mycin pediatric drops, 100 mg., may be given three or four times daily.

Chronic urethritis is common in infants and children and is easily overlooked. If untreated or poorly treated, a strictured and sclerotic urethra results (Fig. 2).

Urethritis in the female should be treated with Furacin suppositories inserted in the urethra daily, if practical, and inserted in the vagina nightly for a week. An appropriate antibiotic for the infecting organism is also given. Ointments are not recommended for small children. If the disease is resistant, dilatation of the urethra is necessary and half of a 0.5-mg, diethylstilbestrol suppository may be inserted in the vagina.

For enuresis, causes other than psychologic should be considered, such as urethrotrigonitis and interstitial cystitis. Dilatations and Pro-Banthine are used for urethrotrigonitis.

If urinary infection is eradicated by antibiotics and then recurs, a complete examination should be made to detect an underlying disorder, commonly obstructive.

Long-Term Diamox Therapy for Glaucoma

BERNARD BECKER, M.D., AND WILLIAM H. MIDDLETON, M.D., WASHINGTON UNIVERSITY AND OSCAR JOHNSON INSTITUTE, ST. LOUIS, report that long-term systemic administration of Diamox (acetazoleamide) lowers intraocular pressure in some patients with uncontrolled glaucoma. The mode of action is partial suppression of secretion of the aqueous humor. However, the drug should be restricted to patients who can be observed closely and who can be kept normotensive by tolerated doses.

Selected patients can be maintained by Diamox for periods of over eighteen months without loss of vision or field and without significant systemic or ocular toxicity. The usual dose is 250 mg. every six hours. Side effects of long-term therapy include paresthesias, anorexia and weight loss, excessive fatigue, and hearing loss.

Diamox is most successful for prolonged treatment of open-angle glaucoma uncontrolled by miotics and for chronic secondary glaucoma. Patients with chronic narrow-angle glaucoma are seldom benefited.

Diamox does not affect the basic disorder of glaucoma, that is, the obstruction to outflow, but is a limited means of lowering intraocular pressure. Therefore, the drug should not be substituted for measures designed to improve outflow, such as administration of miotics or surgery, but should be used as a supplement to such therapy.

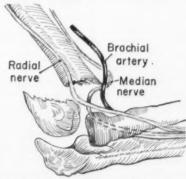
Long-term acetazoleamide (Diamox) administration in therapy of glaucomas. Arch. Ophth. 54:187-192, 1955.

Complications of Humeral Fractures

PAUL R. LIPSCOMB, M.D., AND R. JOE BURLESON, M.D. Mayo Clinic and Foundation, Rochester, Minn.

Injuries to nerves or blood vessels resulting from supracondylar fracture of the humerus in children may be more serious than the fracture.*

The mechanism of supracondylar fracture predisposes to neural and vascular injuries. The injuring force carries the condyles backward and strips the periosteum from the posterior surface of the proximal fragment. This space promptly fills with blood. The lower end of the proximal fragment is carried forward and downward, piercing the anterior aspect of the periosteum and forcing against the soft tissues (see illustration).



Mechanism of injury to brachial artery and median and radial nerves in supracondylar fracture of the humerus

Blood vessels and nerves thus become compressed by blood and fragments of bone. Nerves may be contused, compressed, restricted by scar, or lacerated, and vessels may be compressed, contused, thrombosed, perforated, or severed.

Sensory, motor, and circulatory status should be thoroughly investigated at initial examination. Adequate and early treatment of acute vascular injuries usually results in good prognosis. Delay may lead to serious and permanent disability. An absent radial pulse usually returns after primary manipulation, and cyanosis distal to the fracture disappears.

After reduction, the individual should be hospitalized and circulatory status observed for forty-eight to seventy-two hours. If adequate circulation does not return within a half hour after reduction, the brachial artery in the antecubital fossa is explored. Since cases in which Volkmann's contracture will develop cannot be distinguished from those in which adequate circulation will return within twentyfour hours, immediate operation is recommended. If collateral circulation is adequate when the radial pulse is gone, management is conservative. Stellate ganglion block with procaine aids in release of

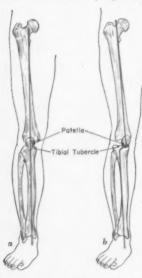
^{*}Vascular and neural complications in supracondylar fractures of the humerus in children. J. Bone & Joint Surg. 37-A:487-492, 1955.

brachial artery spasm and in establishment of collateral circulation. Resection of damaged segments of the blood vessel may be necessary.

If pain, pallor, and paralysis as well as pulselessness occur, the artery and nerves in the antecubital fossa are immediately explored. No immediate operation is advisable for neural involvement without signs of vascular injury. Nerve palsies should be observed for several weeks after reduction of the fracture. If no apparent improvement is noted, surgical exploration of the nerve is advisable.

Osgood-Schlatter Disease: Cause, Therapy

PHILIP WILLNER, M.D., AND ALBERT WILLNER, M.D., HOSPITAL OF ST. BARNABAS, NEWARK, N.J., report that Osgood-Schlatter disease, partial separation of the tubercle of the tibia, is produced by multiple trauma due to a shearing force directed against an oblique patellar tendon. Restoration of normal weightbearing decreases the obliquity and eliminates symptoms.



Normal weightbearing [a] and abnormal stress due to Osgood-Schlatter disease [b]

The epiphysis of the tibial tubercle develops at about the age of 11 and closes approximately four years later. Most patients with Osgood-Schlatter disease are between the ages of 11 and 15 years. When the patient stands erect, an abnormal angle of insertion of the patellar tendon into the tibial tubercle is produced and the feet are noticeably pronated. Pain is noted in one or both knees when the patient is standing, going up or down stairs, or running or when direct pressure is exerted. Pain is localized in the region of the insertion of the patellar tendon. Slight to severe soft-tissue swelling with occasional bony irregularity is noted over this site.

Roentgenograms reveal separation of the epiphysis from the diaphysis, fracture of the epiphyseal plate with fragmentation, or ossification in the region of the patellar tendon.

Treatment involves raising of the inner side of both heels with the use of

a longitudinal arch support. Therapy is continued until the patient is 15 years of age. Symptoms are relieved within six to twelve weeks.

Osgood-Schlatter's disease. J. M. Soc. New Jersey 52:304-305, 1955.

Use of Medullary Nailing of Fractures

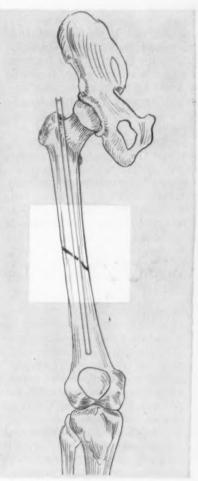
J. ALBERT KEY, M.D.*

Washington University, St. Louis

Fixation by medullary nailing is especially satisfactory for simple transverse or short oblique fractures of the middle third of the femur, phalanges, tibia, and forearm bones.†

MEDULLARY fixation is valuable in the treatment of fractures of long bones. However, the introduction of a suitable nail may require operative exposure of the fracture site, thus converting a simple fracture into a compound one with attendant dangers of infection and nonunion. Therefore, medullary fixation should not always be used, and closed reduction and external fixation or traction should be done when possible. Medullary nailing is particularly suitable for fractures of the femur, finger phalanges, tibia, metacarpals, radius, ulna, humerus, fibula, and metatarsals.

The ideal fracture for nailing is a simple transverse or short oblique fracture in the middle third of a long bone (see illustration). Fractures within 3 in. of either end of the femur or tibia can be nailed in the usual manner if the nail is supplemented by external fixation. Supracondylar fractures of the femur or humerus may be fixed with the use of 2 slightly curved Rush



Ideal position for nailing

^{*}Deceased.
† Indications and contraindications for medullary nailing of fractures. J.A.M.A. 158:1001-1003, 1955.

nails. Fractures of the proximal portion of the humerus can be stabilized with nails inserted through the greater tuberosity and into the shaft.

If so much time has elapsed after compound fracture that the wound cannot be closed by primary suture, the nail is not inserted and the wound is left open. Instead, the fracture is treated with traction or a cast. When the wound is closed by delayed primary or secondary suture, a medullary nail may be inserted only if the wound is unusually clean.

Ordinarily, medullary nailing is not done if the fracture site is infected. However, in selected patients, nailing may obviate prolonged immobilization in bed and possible sepsis, cachexia, kidney stones, and eventual nonunion. With pathologic fractures of long bones, medullary nailing may be the best form of treatment available because convalescence is shortened and pain is relieved. For selected impending pathologic fractures, a medullary nail should be inserted before the fracture occurs.

A patient in shock or impending shock should not have medullary nailing. The fracture should be immobilized by traction or in a cast or splint, and operation is postponed until the general condition of the patient is improved. Age of the patient also influences medullary nailing. A femur or tibia in a patient of advanced age may be nailed to shorten the disability, but such fractures in children are not nailed. The passage of a large nail through the epiphysial line might disturb the growth of the bone.

Neurologic Signs of Lupus Erythematosus

ROBERT G. SIEKERT, M.D., AND EDWARD C. CLARK, M.D., MAYO CLINIC AND FOUNDATION, ROCHESTER, MINN., suggest that neurologic abnormalities may occur with systemic lupus erythematosus long before characteristic skin lesions are apparent.

Neurologic involvement may be evidenced by generalized and focal convulsions, subarachnoid hemorrhage, aphasia, monoplegia, hemiplegia, quadriplegia, paraplegia, vertigo, nystagmus, neuropathy, disorders of movement, cortical blindness, choked optic disks, diplopia, or psychiatric aberrations. The neurologic deficit may resemble multiple sclerosis, subacute combined sclerosis, or Sydenham's chorea with joint effusions like those of acute rheumatic fever.

Lupus erythematosus should be suspected when an acute neurologic disorder is combined with elevated sedimentation rate, reversed albumin-globulin ratio, anemia, albuminuria, microhematuria, or joint pain. Diagnosis is established by sternal bone marrow aspiration or the clot test.

Neurologic signs and symptoms as early manifestations of systemic lupus erythematosus. Neurology 5:84-88, 1955.

Psychosomatic Medicine

FIFTH OF A SERIES OF 5 ARTICLES

Stress, Emotions, and Cardiovascular Disease

LAWRENCE E. HINKLE, JR., M.D., * AND HAROLD G. WOLFF, M.D.†

Cornell University, New York City

During periods of special need, the human organism may exhibit a general mobilization for action. When a healthy man in this laboratory runs upstairs or exercises vigorously, the output of blood from his heart increases with each beat, the heart rate increases, blood pressure goes up, and the amount of resistance offered to the flow of blood by the minute vessels in some of the tissues of the body is decreased. Such reactions, by insuring a good supply of blood to muscles, serve to make his efforts more effective.

During an anxiety-inducing interview in which an important relationship to another person was discussed, a patient acted as though he were running upstairs or engaging in battle. He complained of pounding heart and breathlessness. Climbing testing steps further increased his already augmented stroke volume and heart rate. As the patient's over-all life adjustment improved, his circulatory status also benefited, so that a year later the

same effort produced a minimal but effective response.

A hypertensive man who ostensibly loved but actually hated his mother presented a bland exterior during an interview concerning her attitudes, but his blood pressure rose as did the resistance offered to the passage of blood by the vessels of many of his organs. The amount of blood that went through his kidnevs decreased. His fluid and electrolyte balance was disturbed. His blood became more viscid and coagulated more readily. His head ached severely, and the muscles of his back became cramped. Thus, this man with arterial hypertension was meeting what to him was danger by being alert and ready for an action which was never carried out.

In considering these matters in greater detail, it is apparent that any function of man's cardiovascular system which is affected by somatic or autonomic nerves or by glands of internal secretion may be altered during changes in be-

^{*}Assistant Professor of Clinical Medicine, Cornell University Medical College, New York City. †Professor of Medicine (Neurology), Cornell University Medical College, New York City. From the Study Program for Human Health and Ecology of Man and the Departments of Medicine and Psychiatry of the New York Hospital-Cornell University Medical College, New York City.

havior and may be affected during reactions to the people, events, and situations in his social environment. Some cardiovascular functions are so much a part of man's reaction patterns that specific cardiac syndromes are referred to as being "emotionally induced" or "psychosomatic reactions." However, such adaptive reactions may participate in any disease process regardless of the concurrence of infection. trauma, or congenital anomaly. Changes in feeling states and cardiovascular alterations are both parts of man's adaptive reactions to his life situation. Moreover, changes in cardiovascular function can take place in response to threatening life situations in persons who are unaware of or show no overt evidence of an emotional disturbance.

The most common cardiovascular reactions during life stress are

changes in the rate and rhythm of the heart, which are under the control of the cardio-accelerator nerves and the vagi. The tachycardia associated with acute fear is widely appreciated. However, it is less commonly recognized that a persistent increase in heart rate to 100 beats or more per minute is usual during sustained anxiety or tension. Such sustained anxiety may be especially relevant to the tachycardia of persons who have had previous cardiac damage caused by diseases such as rheumatic fever. Tachycardia associated with anxiety may not be strikingly accelerated by the standard Master 2-step exercise test, and sometimes the heart rate actually falls to a lower level after exercise. On the other hand, people with such tachycardia often show an increased sensitivity to exercise so that the heart rate be-

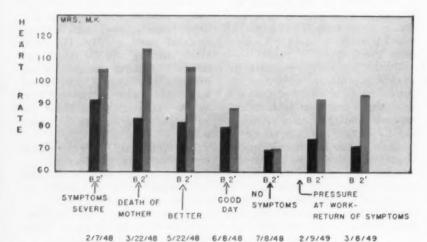


Fig. 1. Repeated estimation of exercise tolerance under a variety of circumstances from day to day. The column above "B" represents the heart rate before exercise; above 2', the heart rate two minutes after the standard Master step test.

comes abnormally high during the test and fails to return to the base line within the expected period of time (Fig. 1). Therefore, reactions during stressful life experiences may impair exercise tolerance even of persons with healthy hearts.

Paroxysmal tachycardia commonly occurs in settings of life stress. An increase in circulating adrenalin and heightened activity of the cardio-accelerator nerves provoke the myocardium to such abnormal rhythms. Arrhythmias may originate from many sites within the auriculoventricular conduction apparatus. There are a host of clinical observations of their initiation by acute emotional disturbances. Attacks of paroxysmal tachycardia have been induced by experimentally creating conditions that severely disturb the patient. Inversely, they may terminate with the end of the stressful experience. Paroxysmal auricular fibrillation has likewise been precipitated by stress, especially in persons with hearts previously damaged by dis-Yet, paroxysmal auricular fibrillation is observed during stress in persons with no demonstrable preexisting cardiac lesion.

Epinephrine and the cardio-accelerator nerves act to increase cardiac rate and output and consequently cardiac work. These circumstances ultimately augment the metabolic demands of the myocardium and influence the course of many cardiovascular disorders. The occurrence of true angina pectoris in an anxiety state is probably the result of a relative cardiac ischemia during intensified cardiac

work. Persons with chronic heart failure in a borderline state of compensation may decompensate while attempting to cope with stressful situations. Undoubtedly, some of the increased cardiac work can be attributed to the exaggerated muscular activity and restlessness which characterize the behavior of some persons when dealing with stress predicaments, but a large part of the cardiac overwork may be owing to the stimulation of the heart by the accelerator nerves. Such unusual cardiac exertion evoked by anxiety implicitly requires restriction of demands on damaged myocardium. Diminution of the cardiovascular load by bed rest underlies the treatment of coronary occlusion. However, patients with coronary occlusion may offset any beneficial effects of bed rest by becoming so anxious about the implications of their disease that they increase heart rate and myocardial work.

The occurrence of pain in the chest in anxious or frightened persons may pose serious diagnostic problems, especially when the pain simulates angina pectoris. As was pointed out, true angina pectoris presumably resulting from myocardial ischemia may be precipitated during reactions to adverse life situations. However, such myocardial insufficiency occurs mainly in persons with previously impaired coronary circulation. Anxious people who experience tachycardia commonly feel their hearts pounding and thumping, especially shortly after they have retired.

It is not difficult to differentiate

these sensations from true angina pectoris. But many anxious people also experience steady, dull "sticking" or "gripping" pain suggestively located over the apical region of the heart and spreading through the left chest and into the precordium. The mechanism by which this pain is produced is not understood. It probably stems from a physiologic peripheral disturbance, in part from a cramp of the muscles of the diaphragm. The circumscribed location suggests that some of the sensations originate in the muscles of the chest wall near the cardiac apex. To differentiate this sensation from the pain caused by myocardial ischemia may not be easy, especially in an individual known to have myocardial damage.

However, the natural history of this pain in a particular patient helps in identification. The origin over the apex region of the heart is typical. It is described as "sticking" or "aching" but does not have the crushing or oppressive quality associated with the pain of coronary insufficiency. It is steady and sometimes persists for hours. Most characteristically, it is not precipitated by exercise or reduced by rest and may even disappear during vigorous physical activity.

The same mechanisms that alter heart rate and output and produce myocardial ischemia during periods of stress may alter the electrocardiogram. Changes in rate and rhythm are, of course, readily reflected in the electrocardiogram. In addition

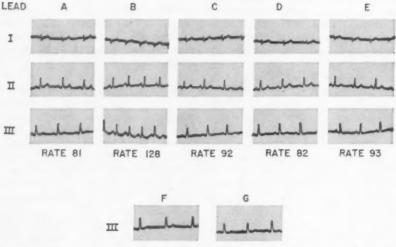


Fig. 2. Electrocardiographic changes during emotional stress in a 28-year-old girl with asthma but without cardiovascular symptoms. The changes occurred during a discussion of her psychopathic sister and were not imitated by movements of the diaphragm which might cause rotation of the heart. [A] Relaxed before interview; [B] anxious, crying when talking of sister; [C] relaxing but tense; [D] fully relaxed; [E] after exercise; [F] during full inspiration; [G] during full expiration

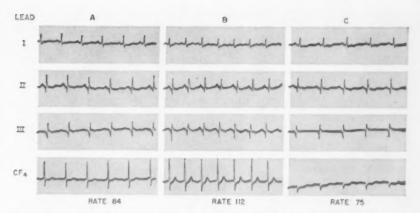


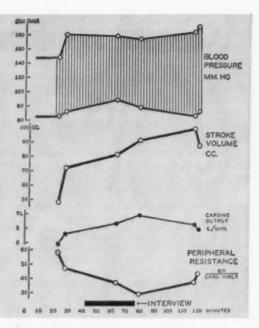
Fig. 3. Electrocardiographic changes during emotional stress in a 48-year-old man with a posterior myocardial infarction. Changes occurred during discussion of his first marriage. [A] Moderately tense before interview; [B] humiliated and resentful: [C] relaxed at end of interview.

to paroxysmal tachycardia, bradycardia may be caused by vagal influences, especially in adaptive reactions associated with suppression of feelings. Such vagal influences result in slowing of the auriculoventricular conduction times and the institution of temporary heart block and dropped beat. Vagal activity may be responsible for auricular and ventricular extrasystoles, which occur in anxious persons and even among those who do not have myocardial damage (Fig. 2). Also, the carotid sinus may be extremely sensitive in some persons during periods of stress and may account for bradycardia and syncope at such times. The configurations of the T waves of the electrocardiogram likewise may change when an individual is subjected to emotional strain, perhaps because of neurogenic effect on coronary circulation (Fig. 3).

The relation between life stress

and essential hypertension has been a matter of absorbing interest to the medical profession for many years. It is easy to demonstrate that reactions to emotionally charged situations may be associated with both pressor and depressor fluctuations in blood pressure. The typical response to fear and anger is an epinephrine-like pressor reaction. The sudden rise in blood pressure is produced by the large increase in cardiac output usually associated with accelerated heart rate and augmented stroke volume (Fig. 4). Peripheral resistance may be little affected and indeed is often somewhat diminished. This reaction pattern is not like that seen with essential hypertension. Here, as in other chronic hypertensive states, the elevation of blood pressure is consequent upon an increase in peripheral resistance, largely due to arteriolar constriction (Fig. 5). Cardiac output and rate are changed little,

Fig. 4. Elevation of the blood pressure attributable to an increased cardiac output with a fall in peripheral resistance during an interview which evoked overt manifestations of anxiety and conflict



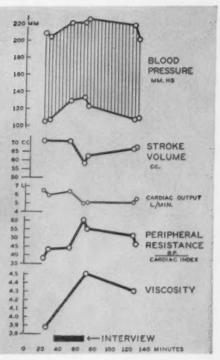
if at all. A similar pattern can be observed in normal individuals after injection of norepinephrine.

The pathologic physiology of essential hypertension is not yet clear. Pressor substances arising from the kidney and involving the reninhypertensin system are in all likelihood implicated in the development of this syndrome, but the decline of blood pressure sometimes afforded by removal of the sympathetic chains as well as other evidence points to the effect of autonomic nerves also.

Even though the mechanism of peripheral resistance is not yet entirely understood, reactions to life stress are obviously important. Careful observation of the course of essential hypertension establishes that the onset, exacerbations, and remissions of the illness are closely associated with pertinent events and attitudes in the life of the patient. Those who have dealt with hypertensive patients have repeatedly observed that these persons are highly charged with hostility which they have great difficulty in expressing. In the laboratory, it is not at all difficult to demonstrate a rise in the blood pressure of a hypertensive patient during discussion of disturbing events in his life (Fig. 5).

By ballistocardiographic study, hypertensive individuals display a reaction pattern similar to that induced by norepinephrine, probably caused by an increase in peripheral resistance without changes in car-

Fig. 5. Elevation of the blood pressure attributable to an increased peripheral resistance with a fall in the cardiac output in a hypertensive subject during an interview concerning significant personal conflicts to which the subject reacted by consciously or unconsciously "reining in" his feelings so that he displayed an attitude of unruffled calm



diac output. The ballistocardiograph is not an exact instrument, and its measurements cannot be regarded as definitive. Nevertheless. this evidence is consistent with that from other sources. When special attention is given to altering attitudes of some hypertensive patients toward the significant stress situations in their lives and, when possible, to eliminating these situations, partial or complete remission of the hypertension ensues more frequently than would be expected to happen spontaneously. In summary, then, clinical observations and laboratory evidence suggest that the genesis and course of essential hypertension are intimately related

to the patient's reactions to his social environment.

The small vessels of the skin are also altered as a part of man's reaction to stressful life experiences. The tone of both the capillaries and the arterioles of the skin may be profoundly affected by vasomotor reactions originating in the cerebral cortex. Sham blows may lead to a loss of tone of arterioles and capillaries which is as great as that produced by actual blows (Fig. 6). Dilatation and permeability of skin capillaries as a part of such reactions readily lead to the appearance of wheals after minor trauma. These alterations give rise to "hives" during periods of stress. The course

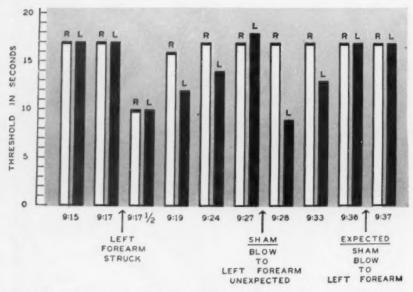


Fig. 6. Changes in the reactive hyperemia threshold of both forearms of a healthy man in response to real and feigned blows to the left forearm

of disorders such as Raynaud's syndrome is also intimately affected by the patient's reaction to his life situation.

Since the original observations of Cannon, it has been known that blood viscosity and blood-clotting mechanisms may be implicated in adaptive reaction patterns. Cannon's observations were concerned with the effects of epinehrine and the sympathetic nervous system during acute fear and anger. Such reactions are, indeed, associated with increased blood viscosity and a decrease in clotting time. A similar decrease in clotting time and viscosity of a more persistent nature have been demonstrated in some patients with thrombophlebitis. Such changes closely accompanied alterations of life situations. During stressful circumstances, the patient's clotting time decreased, blood viscosity increased, and active thrombophlebitis recurred. It is possible that epinephrine is involved in this reaction, but it is equally likely that some derangements of the blood elements concerned with clotting are at fault.

To maintain a constant environment within the human organism, stores of fluid and salt are of paramount importance. Observations made in the laboratory have shown that, when in response to life circumstances, persons were prepared for short violent action, as for fight or flight. Also, during situations evoking tempestuous and aggressive behavior, with attitudes

and feelings of excitement, intense anger, and apprehension, sodium and water were lost. On the other hand, fluid and electrolytes were retained during reactions featured by listless behavior, reduced activity, and slowed and decreased speech or with attitudes and feelings of despair, hopelessness, and depression. Retention of fluid and electrolytes accompanied responses of fright during terrorizing situations and reactions to severe noxious stimulation and pain. Renal excretion of water and sodium decreased and body weight increased when persons were faced with threatening situations eliciting restless behavior, increased alertness, readiness for action, and mixed feelings of confidence, uneasiness, and tension. Situations evoking similar behavior and feelings but notable by unusual constraint were sometimes associated with retention of potassium as well. Diuresis of water and salt with resultant weight loss occurred with ending of such periods of threat.

Such reactions to threatening symbols or sustained interpersonal and social pressures of a threatening nature obviously serve no useful purpose. Indeed, in persons with marginal circulatory and renal efficiency who have excess accumulation, the retention of additional fluid may be hazardous. Hence, the evaluation of therapeutic procedures involving fluid and electrolyte balance must include an appraisal of the person's setting and his reactions to it.

It should be evident from this brief account that there is no aspect

of cardiovascular disorders which has not been shown to be affected by reactions to untoward life experiences. It is not possible for the physician to say to himself that there are some illnesses which are clearly related to life stress and others in which stress and strain can surely be considered irrelevant. Indeed, even a syndrome such as acute rheumatic fever with its known relation to streptococcal infection of the upper respiratory tract is influenced by stressful interpersonal social situations. Children with rheumatic fever exposed to difficult conditions have greater than expected incidence of recurrence. The hormones of the adrenal cortex used in suppressing this disorder are commonly elaborated by the patient's own adrenals in response to his life demands as well as to his activities and his infections. An exacerbation of rheumatic fever might be the result of a partial suppression of cortical steroid production or, conversely, of an increase in adrenocortical function leading to an impairment of immune mechanisms and a susceptibility to streptococcal infection.

More needs to be known about mechanisms, but we are already at the stage at which the physician must say to himself, "What part does the patient's reaction to his life situation play in the disease with which I am confronted, and how may I deal with this in my treatment of his illness?" The capacity to take an adequate developmental history and to obtain from the patient a description of his present life situation, feelings, and

attitudes may be learned by experience in the same manner that one learns to record the usual less complete medical history. Similarly, the judgment to know when to listen passively and sympathetically and when to attempt to alter the patient's attitudes comes from experience in dealing with the personal problems of patients. It is not difficult to learn to do this un-

der proper guidance, since the manipulations involved are based upon rational considerations and experiences similar to those used in determining what kinds of medication and how much. A physician concerned with the care and treatment of patients with cardiovascular disease cannot understand and treat them effectively without such interest, knowledge, and experience.

¶ CESAREAN SECTION should be performed only when the method is superior to other obstetric procedures. Although the frequency of abdominal delivery has increased in many other countries during the past ten years, Ludvig Simon, M.D., of Norrköping Hospital, Sweden, reports that the incidence of the operation and of maternal and infant mortality is low in Sweden. Abdominal delivery often results in decreased tensile strength of the uterine wall and may have serious mental and physical sequelae.

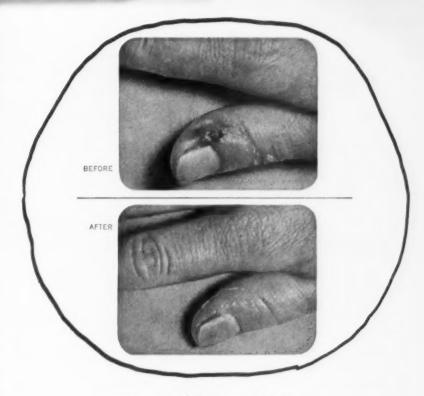
Acta obst. et gynec, scandinav. 34:151-160, 1955.

¶ECTOPIC PREGNANCY occurs more frequently in Negro than in white women, probably because of the higher incidence of inflammatory pelvic disease, especially gonorrhea, in Negroes. José Fontanilla, M.D., and George W. Anderson, M.D., of the Johns Hopkins University, Baltimore, find that treatment of gonorrhea with antibiotics does not increase the incidence of abnormal implantation. In Baltimore, the ratio of ectopic gestation to all pregnancies is about 1:200 in white and 1:120 in Negro patients.

Am. J. Obst. & Gynec. 70:312-319, 1955.

¶ HYPERTENSION DURING PREGNANCY may be caused by pheochromocytoma as well as by toxemia or other factors. Symptoms of the tumor are not specific, but Sir Arthur A. Gemmell, M.B., of the University of Liverpool, England, finds that hypertension induced by intramuscular injection of histamine; an immediate fall of at least 40 mm. of mercury in the systolic blood pressure after injection of Piperoxane, Dibenamine, or Regitine; and perirenal pneumonographic demonstration of the growth are diagnostic. Treatment is surgical excision of the tumor.

J. Obst. & Gynaec. Brit. Emp. 62:195-202, 1955.



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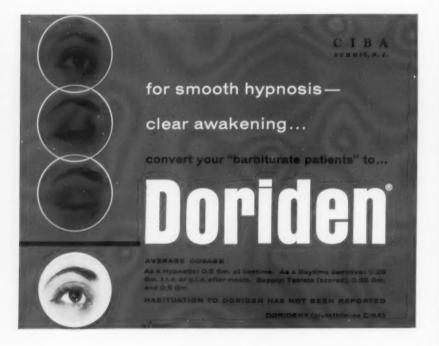
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Recurrent Urinary Calculi

HENRY M. WEYRAUCH, M.D., AND MILTON L. ROSENBERG, M.D. Stanford University, San Francisco

A chemical analysis should be made of urinary calculi in order to form a plan of management to prevent recurrence.*

Radiopaque calculi consist of 2 main types: [1] primary calcium calculi, which are usually combined with oxalates, phosphates, or carbonates, and [2] secondary magnesium ammonium phosphate stones which form when the urine is strongly alkaline. Nonopaque calculi include the common uric acid stones, cystine stones, and the extremely rare xanthine stones.

The most important chemical test in the study of primary calcium calculi is the quantitative determination of urinary calcium. This test will reveal whether hypercalciuria is idiopathic or caused by [1] hyperparathyroidism; [2] excessive calcium or vitamin D intake; [3] immobilization; [4] renal tubular acidosis from pyelonephritis, nephrocalcinosis, or congenital tubular defect; or [5] sarcoidosis.

With hyperparathyroidism, calcium excretion exceeds intake, even with a low-calcium diet. The patient is fed a diet of 175 mg. of calcium daily for four days. The urine is collected during the last twenty-four period and a quantitative calcium determination made.

If the twenty-four-hour specimen contains more than 200 mg. of calcium, hyperparathyroidism is likely. Permanent cure of this condition is possible by partial parathyroidectomy.

Excessive calcium intake may occur with the ingestion of large quantities of milk, cream, and alkalies. Excessive vitamin D intake causes large amounts of calcium to be absorbed from the large intestine, with an increase in the quantities of phosphorus and calcium excreted in the urine.

Forced immobilization by cast or traction produces bone resorption with excessive excretion of calcium. Renal tubular acidosis prevents the tubules from producing ammonia, excreting hydrogen ion, or concentrating the urine. A fixed base in the form of increased calcium and potassium excretion is lost. Hypercalciuria occurring with sarcoidosis is apparently caused by an invasion of osteoblasts and demineralization.

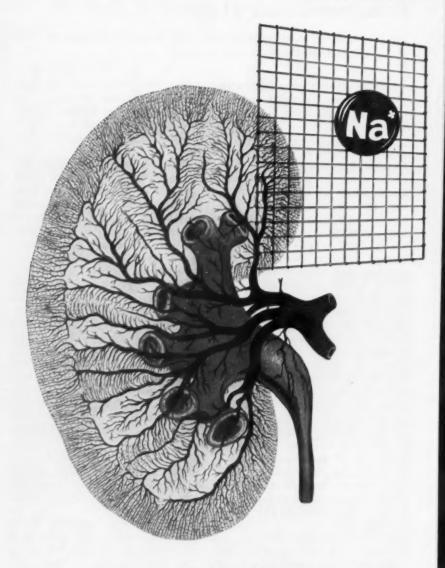
No metabolic cause for magnesium ammonium phosphate calculi is apparent. The usual etiologic factors are stasis and alkaline infection.

In contrast to uric acid stones caused by stasis, uric acid calculi which form in the kidney and ure-

^{*}Practical management of the stone-former, California Med. 83:6-11, 1955.

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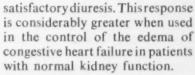
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Effectiveness—Approximately 70 per cent of unselected edematous patients treated with Mictine have been found to respond with a

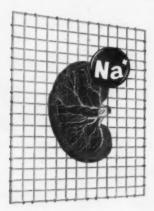


Clinical Field—Mictine is useful primarily in the maintenance of an edema-free state and in the initial and continuing control of patients with mild congestive failure. Mictine may be used also for initial and continuing diuresis in more severe congestive states, particularly when mercurial diuretics are contraindicated.

Administration—The usual dosage for the average patient is one to four tablets daily in divided doses with meals and on an interrupted schedule. The latter may be accomplished by giving the drug on alternate days or for three consecutive days and then omitting it for four days.

For severe congestive states the dosage is four to six tablets daily with meals, also in divided doses on interrupted schedules.

Supplied—Uncoated tablets of 200 mg.



^{*}Trademark of G. D. Searle & Co.

ter are usually due to a metabolic error in purine metabolism. The urine is acid and usually uninfected. In many cases, the level of uric acid in the blood is increased without an augmentation of the urinary excretion.

Cystine calculi result from an intermediary protein metabolic defect in which incomplete oxidization of cystine is followed by increased urinary excretion of crystalloids and formation of stones. The stones are often staghorn and slightly radiopaque. The urine is acid and uninfected. The diagnosis may be made by an elevated twenty-four-hour urinary output of cystine.

Prophylaxis has 2 objectives: [1] prevention of a nidus around which a calculus may form and [2] prevention of crystalloid concentration sufficient for precipitation on a nidus.

Effective general measures include:

• Ingestion of large quantities of fluid, 3 to 4 qt. daily, distributed evenly over the waking hours. This maintains a constantly low concentration of urine and combats urinary infection.

• Elimination of infection, obstruction, or stasis.

Physical activity. When ambulation is not possible, administration of hyaluronidase may prevent calculus formation during the initial period of recumbency when calcium metabolism in the bones is being restabilized and excess calcium in the urine is inevitable.

A patient with tendency to radiopaque calculi composed of phosphorus or calcium is fed the lowphosphorus diet of Shorr. While the patient is using this diet, the twenty-four-hour urinary output should contain less than 300 mg. of phosphorus. The excretion of phosphorus is determined every few weeks until the amount is stabilized.

Aluminum carbonate (Basaljel) may be given as an adjunct to the diet. Basaljel acts with phosphate by absorption to form insoluble aluminum phosphate. The more Basaljel the patient takes, the more latitude may be permitted in the diet. A multivitamin preparation is given once daily to help preserve normal urothelium and to prevent nidus formation.

When no infection exists, acidification of the urine is not necessary. If the urinary phosphate cannot be adequately decreased or urea-splitting organisms or magnesium ammonium phosphatic calculi are noted, acidification of the urine with mandelic acid or ammonium chloride or an acid-ash diet is advisable.

The urine of patients with non-radiopaque stones should be maintained at a pH of 7 to 7.5 by giving sodium citrate or bicarbonate daily or by an alkaline-ash diet. A low-purine diet aids in reducing cystine, uric acid, and xanthine output even though the primary defect is metabolic. In gout, 4 to 6 gm. of acetylsalicylic acid daily tends to lower the blood uric acid level and probably the urinary excretion. Smaller doses of acetylsalicylic acid may cause uric acid retention in the blood.

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Urethral Cancer Among Females

WILLIAM J. STAUBITZ, M.D., LAWRENCE M. CARDEN, M.D., OSCAR J. OBERKIRCHER, M.D., MELBOURNE H. LENT, M.D., AND WALTER T. MURPHY, M.D.

Roswell Park Memorial Institute and University of Buffalo, Buffalo, N.Y.

Interstitial irradition is the best treatment for women with urethral cancer.*

CARCINOMA of the female urethra occurs most commonly among married women after the menopause. The primary tumor may remain localized to the urethra or extend into the bladder or the vulva.

Squamous-cell carcinoma is most common but transitional-cell lesions or adenocarcinoma may also occur. The histologic pattern cannot be correlated with malignant behavior of the tumor.

Chronic infection and childbirth injuries are possible etiologic factors. Urethral caruncle is sometimes detected before cancer develops.

Bleeding, from the urethra or vagina or hematuria, is the principal symptom and occurs with over 80% of urethral carcinomas. A watery, foul vaginal discharge is often associated. Frequency of urination, generally with burning, is also common. Urgency is not a prominent symptom.

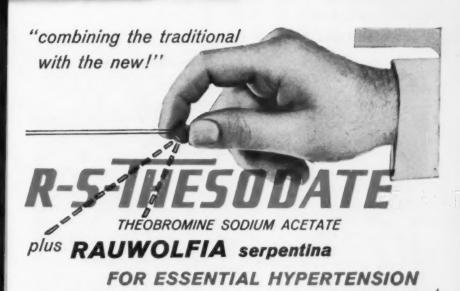
Urethral prolapse or caruncle must be differentiated. Definite diagnosis depends on biopsy. A typical carcinoma is an irregular, granular mass that protrudes from the urethral orifice and bleeds easily, but an early cancer may be only a small, rounded elevation under the meatal lip. Urethral prolapse is usually symptomless, soft, nontender, and continuous with the urethral mucosa. Caruncles are smooth, red, and tender but not indurated. The posterior lip of the urethral meatus is the most common location, and the lesions are frequently less than 1 cm. in diameter.

About half of the tumors metastasize. The usual site of spread from the distal urethra is the inguinal group of nodes; disease from the proximal portion extends to the deep pelvic nodes, including hypogastric and external and internal iliac nodes.

Interstitial irradiation with removable implants is the best treatment, unless implants longer than 4 cm. are required. At least 4,500 to 5,000 gamma r within four days or 6,000 r within six or seven days should be applied with radium element needles. For vulvar lesions, 6,000 gamma r within five to seven days is the smallest tumor dose.

Roentgen-ray treatment alone

^{*}Management of urethral carcinoma in the female, J. Urol. 73:1045-1053, 1955,



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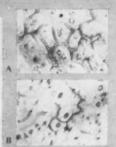
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(1) Clara, M.: Med. Monatsschr. 7:356, 1953. (2) Brauer, R. W., and Pessotti, R. L.: Science 115:142, 1952. (3) Schwimmer, D.; Boyd, L. J., and Rubin, S. H.: Bull. New York M. Coll. 16:102, 1953.

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should be used only for extensive tumors when large volumes of tissue must be treated. If radical surgery is performed, postoperative roentgen-ray therapy may be beneficial. However, external irradiation is not efficacious for treatment of lymph node metastases. External and internal irradiation combined may palliate large tumors.

A skin and mucous membrane reaction, varying from a deep erythema to a moist desquamation, may occur after radiation therapy. The area should be kept clean and dry, and friction from motion or clothing must be eliminated. Bed rest with a heated cradle over the pelvis may be necessary.

If the reaction is not severe, a 1% aqueous solution of gentian violet may be painted or sprayed on the skin twice each day. Second-degree reactions may be treated with wet dressings of 2% boric acid

solution for several hours each day. The lanolin may be mixed with 1% Nupercaine if the patient can tolerate a local anesthetic.

Antibacterial applications such as Neosporin or Polysporin ointment protect against secondary infections. Supportive therapy, including high-protein diet, blood transfusions, and parenteral fluids, may be required.

If alteration in treatment does not control roentgen sickness, sedation or therapy with pyridoxine, Dramamine, Thorazine, or another similar product may be necessary. Rectal suppositories of opium and belladonna ameliorate vesical tenesmus.

Late sequelae include edema of the vulva, atrophy and telangiectasia of the skin and mucous membranes, and subcutaneous fibrosis. Vesicovaginal fistulas are rare and usually due to the cancer.

¶ TRANSURETHRAL PROSTATIC RESECTION should be preceded by administration of antibiotics for prophylaxis. Howard B. Simon, M.D., and associates of the Mayo Clinic and Foundation, Rochester, Minn., report that fever and infection after removal of the urethral catheter are decreased if antibiotics are given preoperatively. The incidence of postoperative fever is not affected.

J. Urol. 74:123-128, 1955.

¶UNDESCENDED TESTES WITH HERNIA should be treated surgically before the patient is 5 years of age. W. H. Snyder, Jr., M.D., and Lawrence Chaffin, M.D., of the University of Southern California and the Childrens Hospital, Los Angeles, believe that early operation is also necessary when a testicle is palpable in the inguinal region but cannot be pushed into the neck of the scrotum. Endocrine therapy and surgery on one side are indicated if cryptorchidism is bilateral, hernia is absent, and a gland is not palpable.

J.A.M.A. 157:129-132, 1955.

New

Clinical Applications of the Ataractic Effect of THORAZINE*

The ataractic or calming and tranquilizing effect of 'Thorazine' is of great therapeutic value in many apparently unrelated conditions where emotional stress is a complicating or even a causative factor.

In such conditions, 'Thorazine' will do much to improve the patient's general well-being, outlook and acceptance of long-term therapy. With anxiety, tension and fear allayed, the clinical picture and the prognosis greatly improve.

Smith, Kline & French Laboratories, Philadelphia



In Severe Asthma—

THE ATARACTIC EFFECT OF

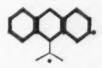
THORAZINE*

can be highly effective—even lifesaving

"... in all but one" of 12 patients with severe asthma, "there was improvement on ['Thorazine'] ... In each instance the patient noted improvement in 45 minutes to one hour after injection. In one case the drug appeared life-saving."—Ende¹

1. Am. Pract. & Dig. Treat. 6:710 (May) 1955.

Smith, Kline & French Laboratories, Philadelphia



In Neurodermatitis—

THE ATARACTIC EFFECT OF

THORAZINE*

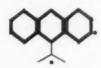
has produced "gratifying"

clinical improvement²

In cases of long-standing, unusually refractory neurodermatitis, 'Thorazine' relieved "scratching, insomnia and restlessness." One patient "had threatened suicide if relief was not forthcoming."—Tilley and Barry²

2. New England J. Med. 252:229 (Feb. 10) 1955.

Smith, Kline & French Laboratories, Philadelphia



In Drug Addiction—

THE ATARACTIC EFFECT OF

THORAZINE*

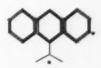
quiets addicts during withdrawal; they are

"relaxed, calm and cooperative"

"During the withdrawal period addicts treated with ['Thorazine'] can abruptly and completely discontinue the other drugs with little or no discomfort."—Friedgood and Ripstein³

3. New England J. Med. 252:230 (Feb. 10) 1955.

Smith, Kline & French Laboratories, Philadelphia



In Arthritic Patients—

THE ATARACTIC EFFECT OF

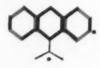
THORAZINE*

can do much

to relieve the general suffering

The ataractic or tranquilizing effect of 'Thorazine' eases anxieties, frustrations, and pain associated with arthritis. Generally, it promotes normal sleep habits; and in many patients it induces a detached indifference to the pain.

Smith, Kline & French Laboratories, Philadelphia



In Tuberculosis—

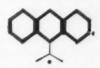
THE ATARACTIC EFFECT OF

THORAZINE*

makes patients amenable to bed rest

'Thorazine' calms the over-active tuberculous patient and he becomes amenable to ward routine and bed-rest plan. Furthermore, it has been reported that almost all emaciated patients gain weight.

Smith, Kline & French Laboratories, Philadelphia



In Migraine—

THE ATARACTIC EFFECT OF

THORAZINE*

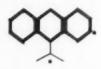
relieves the emotional stress

that often precipitates attacks

"Of the three migraine sufferers treated, two have obtained more relief and have had fewer attacks when taking small doses of ['Thorazine'], along with salicylates, than with any other medication."—Moyer et al.⁴

4. A.M.A. Arch. Int. Med. 95:202 (Feb.) 1955.

Smith, Kline & French Laboratories, Philadelphia



Unilateral Vocal Cord Paralysis

DANIEL S. CUNNING, M.D.

Manhattan Eye, Ear and Throat Hospital, New York City

Hoarseness from paralysis of one vocal cord is not uncommon and is usually due to toxic or neoplastic causes.*

Most cases of unilateral vocal cord paralysis are due to peripheral lesions along the course of the vagus or its recurrent laryngeal branch, somewhere between the jugular foramen and entrance of the nerve into the larynx proper. The left cord is involved much more frequently than the right, probably because of the longer and more tortuous course before reaching the larynx.

Unilateral vocal cord paralysis is rarely caused by disease within the larynx. About 10% of cases are a result of intracranial disease before the vagus nerve leaves the skull, such as tumor, abscess, bulbar paralysis, or vascular accidents. Central lesions also cause paralysis of the muscles supplied by the glossopharyngeal and spinal accessory nerves since the nuclei are so closely related to the brain.

Many infections and toxic agents affect the vagus or recurrent laryngeal nerve. Patients with paralysis from acute upper respiratory and virus infections often regain mobility of the cord in two or three months.

Enlargement of the heart, apical tuberculosis, aortic aneurysm, and hypertrophy of any organ or gland that comes directly in contact with the nerve may cause cord paralysis by mechanical pressure.

Carcinoma of the lung by direct invasion of the nerve or by metastasis, cancer of the esophagus, mediastinal metastasis, malignant nodes in the neck, carcinoma of the thyroid, and lymphosarcoma of the neck may result in paralysis. Such an occurrence usually means that carcinoma is well advanced and beyond the scope of surgery.

Surgery on the thyroid gland is the most frequent traumatic cause of paralysis. Injury occurs when the surgeon forgets that in a large number of patients the nerve divides extralaryngeally into two or more branches. Another common cause of paralysis is injury to the branches of the inferior thyroid arteries. In clamping the vessels to control bleeding, some branches of the nerve are occasionally inadvertently included.

Physical examination of the patient with unilateral cord paralysis should include the heart, lungs, abdomen, nervous system, sinuses, and neck. Blood and urine should be examined for lead and arsenic. Bronchoscopic and esophagoscopic

(Continued on page 180)

^{*}Unilateral vocal cord paralysis, Ann. Otol. Rhin. & Laryng. 64:487-493, 1955.



and the Capacity to Work and Enjoy Life

By enrichment according to official regulations, white bread became a major food for supplying thiamine, riboflavin, niacin, and iron to the national dietary. Nonfat milk solids are added in amounts averaging 4 per cent (by weight) of the flour component. Such enriched bread is valuable not only for its contained B vitamins and iron, but for its calcium and its good quality protein as well.

Mortality and morbidity of nutritional deficiency diseases have dropped markedly since the advent of commercial enriched bread. No stronger evidence can be cited than the virtual elimination of pellagra in our population in recent years.⁵

But a fall in mortality data reflects

only in small measure the true improvement in public health resulting from the nutritional betterment of the national dietary. Of greater concern is the vast number of people who, as a result, enjoy better health with increased capacity to work and enjoy life.

- Jolliffe, N.: in Jolliffe, N.; Tisdall, F. F., and Cannon, P. R.: Clinical Nutrition, New York, Paul B. Hoeber, Inc., 1950, p. 22.
- Cook, H. L., and Halvorson, H.: Wisconsin Agricultural Experiment Station and United States Department of Agriculture, Research Bull. 169, 1950.
- Goddard, V. R., and Marshall, M. W.: United States Department of Agriculture, Technical Bull. 1055, 1952.
- Sherman, H. C.: Chemistry of Food and Nutrition, ed. 8, New York, The Macmillan Co., 1952, pp. 212, 599.
- Sebrell, W. H.: Public Health Reports, United States Department of Health, Education, and Welfare 69:277 (Mar.) 1954.

The nutritional statements made in this advertisement have been reviewed and found consistent with current medical opinion by the Council on Foods and Nutrition of the American Medical Association.

AMERICAN BAKERS ASSOCIATION 20 NORTH WACKER DRIVE . CHICAGO 6, ILLINOIS



Hemorrhoids needn't hurt

Hemorrhoids need not pain, itch or burn. Inflammation, congestion and pressure can be quickly reduced with Anusol Suppositories.

Prompt, lasting relief of pain and itching: Anusol relieves anorectal discomfort almost immediately upon insertion. Action is soothing and decongestive. Relief is prolonged.

Safely: Anusol contains no narcotic, analgesic or anesthetic drug. Thus the danger of masking more serious rectal pathology is eliminated.

Easily administered: Anusol is easy to insert. Comfort plus efficacy, especially where prolonged use is necessary, contribute to patient acceptance.

Safe in any situation: Because Anusol does not narcotize, the presence of strangulation, ulceration, malignancy or prostatic disease is not concealed. Diagnosis and treatment of co-existing disorders (anal fissures, infected crypts, polyps, warts, abrasions, abscesses, etc.) are not impeded. Anusol does not produce rectal anesthesia which aggravates concurrent constipation.

night and after each bowel movement.

Packaging: Boxes of 6, 12, 24 individually foil wrapped suppositories.

Anusol

Suppositories

WARNER-CHILCOTT

examinations must be done in addition.

If abductor paralysis exists, the voice is usually good and no treatment is necessary except when the voice is used more or less constantly. Such patients often complain of fatigue when using the voice in

the accustomed manner. With adductor paralysis, the unaffected cord is unable to cross the midline to meet the opposite cord, and the voice is poor. Most patients with cord paralysis benefit from training with a competent voice instructor.

Peritoneal Shunts for Hydrocephalus

IRA J. JACKSON, M.D., AND S. R. SNODGRASS, M.D., UNIVER-SITY OF TEXAS, GALVESTON, use ventriculoperitoneal and lumbar subarachnoid peritoneal shunts to relieve increased intracranial pressure.

Preoperatively, diagnostic air studies are employed to determine the degree of hydrocephalus and the level of the block. If the studies do not reveal whether the hydrocephalus is communicating or noncommunicating, indigo carmine is injected into the lateral ventricle and a spinal tap is made twenty minutes later. If no dye is found in the lumbar theca, the condition is considered noncommunicating.

Ventriculoperitoneal shunts are performed by placing a plastic tube with side vents into the lateral ventricle through a burr hole. The tube is transfixed with a fine wire suture and passed subcutaneously from the head down the front of the trunk to the level of the last rib and then into the peritoneal cavity in the region of the liver. Multiple skin incisions and a long uterine forceps are used to pass the tube.

Lumbar peritoneal shunts are done through a small midlumbar incision. Hemilaminectomy is performed, removing two laminae, and a catheter is passed into the subarachnoid space. The catheter is transfixed to the dura mater and the free end of the catheter is passed subcutaneously around the trunk and inserted into the peritoneal cavity in the region of the suprahepatic space.

In adults the lumbar peritoneal shunt may be performed by inserting a catheter into the subarachnoid space through a 13-gauge Touhy spinal needle, thereby eliminating the necessity for laminectomy.

The operation may fail because of blockage of the tube by bits of tissue, kinking, migration of the tube, or breakage. Drainage operations are repeated when the first is no longer effective.

Peritoneal shunts in the treatment of hydrocephalus and increased intracranial pressure. J. Neurosurg. 12:216-222, 1955.



military midget

"The Little Corporal," though small of stature, was a mighty man on the battle-field as well as in affairs of state. So effective a military genius was he that it took the combined efforts of all the great powers of Europe, plus a brutal Russian winter, plus the British navy, to stop him.

equally brilliant in its own field... the antihistamine with the smallest dosage

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new "...high degree of effectiveness..." In seasonal allergic rhinitis, DIAFEN effectively relieved symptoms in 89 per cent of patients; in perennial allergic rhinitis, over 75 per cent.

Dosage: Adults, one 2 mg. tablet every four hours. For children over six years of age, one tablet three times daily; for younger children it may be desirable to reduce this dose to one-half tablet twice daily.

new"...remarkable paucity of side effects." More than 97 per cent of patients used DIAFEN with complete freedom from side effects.

Available: On prescription only, in bottles of 100 tiny, easily swallowed tablets.

- 1. Nachtigall, H. B.: Clinical Evaluation of Diphenylpyraline, J. Allergy, 1955, In press.
- DIAFEN IS SCHENLEY LABORATORIES' TRADEMARE FOR ITS BRAND OF AN ANTINISTAMINE.

94491



Management of Chronic Otitis Media

THEODORE E. WALSH, M.D. Washington University, St. Louis

Surgical therapy is necessary when chronic otitis media threatens life or ear function.*

Mucoid ear discharge with chronic inflammation of the glands and mucosa in the region of the eustachian tube in the middle ear is odorless, frequently intermittent, and most profuse with upper respiratory infections. The eardrum has a central perforation, usually in the anterior inferior quadrant.

Hearing is usually good. The threshold for pure tones by air is from 10 to 20 decibels, and bone conduction is normal.

Surgery is never necessary. The discharge ceases when disease in the respiratory tract is corrected. Sinuses, lymphoid tissue in the nasopharynx, and faucial tonsils may require attention. Cleansing with boric and alcohol ear drops or saline irrigation is adequate.

Osteitis of the ossicles and of the bone in the epi- or hypotympanum and in the peritubal cells produces a constant, foul-smelling ear discharge. A central perforation in the eardrum may involve most of the pars tensa but not the annulus. Mucosa on the promontory is thickened, and exuberant granulations or polyps may appear from the middle ear.

Hearing is usually poor. A loss of 40 to 50 decibels is common. As the disease progresses, cochlear function is gradually lost.

Antibiotic therapy may be curative if the disease can be reached by solutions. Increasing loss of hearing or headache necessitates surgery, and operative therapy may be desirable because of the malodorous discharge.

Bone destruction by cholesteatoma causes an intermittent and usually scanty, but odorous, ear discharge. The eardrum has a marginal perforation, usually in the region of Shrapnell's membrane, involving the annulus.

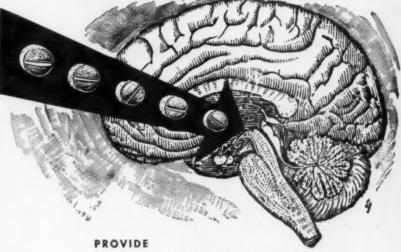
Hearing is usually good, with about a 5- to 10-decibel threshold loss by air and normal bone conduction. Suction of the ear reveals cholesteatoma and produces pus from the epitympanic space through a small perforation. Surgery is generally necessary since life is threatened. Employment of ear drops is hazardous.

Surgery should be planned to eliminate the disease, preserve the hearing, and produce a dry ear. The endaural approach is the best. As much skin of the external auditory canal as possible is preserved.

A dry ear is the primary aim when no drum remains, the middle

^{*}Management of chronic otitis media. South. M. J. 48:750-753, 1955.

SECODRIN TABLETS



Symptomatic relief from Psychosomatic disturbances

COUNTERACT

Anxiety, abnormal dread or fear, discouragement, gloom, depression, nervousness

ALLAY

Sensation of hunger, thereby lessening tendency to overeating

CREATE

Sense of well-being without untoward after-effects

Each Secodrin tablet contains: secobarbital 30 mg. methamphetamine hydrochloride 5 mg.

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Striking appearance and efficiency of this Nu-Tone treatment cabinet are typical of all Hamilton equip-

Every Hamilton examining room unit built represents a remarkable combination of beauty and usefulness. Note the graceful lines, handsome hardware and lustrous finish of this Nu-Tone treatment cabinet (repeated in the Nu-Tone chairtable, instrument cabinet, stool and waste receiver). Yet we've also included every practical feature you need to complete examinations and treatments with maximum speed and efficiency.

This blend of performance and attractiveness characterizes the entire redesigned Hamilton line -Nu-Trend and Steeltone suites, pediatric tables, specialist cabinets and accessories. So - whether interested in single units or complete suites - why not call on your Hamilton dealer soon for counsel and demonstration? No obligation, of course.



Recks for medicine bettles, for example, keep them safely out of your way yet instantly at hand . . . Every cabinet has a drawer equipped with convenient insert for treatment supplies.

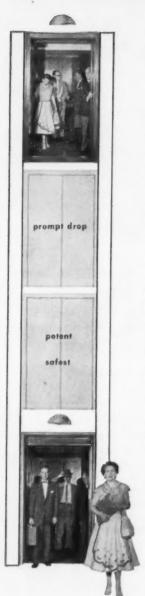


HAMILTON MANUFACTURING COMPANY

Two Rivers, Wisconsin



the most potent safe combination therapy...



to bring high, fixed blood pressure down

When you prescribe Rauvera, its prompt and potent, yet smooth tranquillizing and hypotensive action allows you to manage successfully many of your patients with fixed hypertension (grades II and III) and high diastolic pressures.

Rauvera represents the safest hypotensive combination therapy because the additive if not synergistic action of purified combined Rauwolfia alkaloids (alseroxylon) with a lower dosage of the alkavervir fraction of Veratrum viride (biologically standardized for hypotensive action) produces considerably less side effects than when alkavervir is used alone. Rauvera never causes postural dizziness because it does not contain ganglionic blocking agents.

Each tablet contains 1 mg. of purified Rauwolfia alkaloids (alseroxylon fraction) plus 3 mg. of biologically standardized Veratrum viride alkaloids (alkavervir).

Dosage: 1 tablet 3 to 4 times daily, after meals, at intervals of not less than 4 hours.

RAUVERA®

the safest combination for hypotensive therapy

Smith-Dorsey • Lincoln, Nebraska A Division of The Wander Company ear is full of granulations, and the hearing is poor. A complete radical mastoidectomy is done, and the eustachian tube must be closed.

If hearing can be preserved or improved, a modified operation is performed. The tympanomeatal flap is adjusted to lie in contact with any remnants of the pars tensa. Plastic procedures on the tympanomeatal flap may be beneficial.

A modified procedure is recommended for patients with bone destruction by cholesteatoma. The pars tensa and tympanomeatal flap are preserved. All diseased tissue must be removed. Cholesteatoma matrix should be taken away from the bone. A fenestration operation may

be necessary if hearing is not improved.

Vitamin K, ascorbic acid, and thiamine are administered for a week before and two to three weeks after operation. Postoperatively, the ear can be cleansed with Hydrocortone Acetate ointment, but powders should not be used. The radical mastoidectomy cavity needs little care after dressings are removed.

After a radical mastoidectomy, the hearing loss is usually 45 to 55 decibels. If bone conduction is good, a hearing aid can be worn. After a modified radical mastoidectomy, hearing is usually improved; a 20- to 30-decibel loss, or less, may be expected.

¶ MUCOUS COLON SYNDROME, an entity manifested by diarrhea and passage of mucus, is apparently a psychosomatic disease and is unrelated to ulcerative colitis. Though no structural changes are demonstrable roentgenologically in the intestine, Maxwell H. Poppel, M.D., and associates of New York University and Veterans Administration Hospital, New York City, find that the mucus in the colon causes radiolucent defects in the barium column. Postevacuation films may show thickened mucosa with distorted folds. No signs of inflammation or ulceration are observed.

Radiology 65:50-56, 1955.

¶ BRACHIAL PLEXUS AVULSION can be diagnosed when myelograms show extravasation of the contrast medium beyond the level of the root pouch as a result of rupture of the arachnoidal and dural investments of the nerve roots. Albert A. Rayle, Jr., M.D., Brit B. Gay, Jr., M.D., and Jason L. Meadors, M.D., of Emory University and Grady Memorial Hospital, Atlanta, believe that surgical repair is impossible when these pathognomonic meningoceles are observed, since intact filaments at these levels probably do not exist. If myelographic changes are not demonstrable, intradural exploration of the brachial plexus may be necessary for evaluation of extent of damage.

Radiology 65:65-72, 1955.



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Meo-Synephrine® HCI 0.5%

Dependable Decongestion

Thenfadil® HCI 0.1%

Powerful Anti-Allergic Action

Zephiran® CI 1:5000

Antiseptic Preservative and Wetting Agent for Greater Efficiency

Unbreakable plastic squeeze bottle of 20 cc., prescription packed with removable label.

Also glass bottles of 30 cc. (1 fl. oz.) with dropper.

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No Antibiotic Sensitization

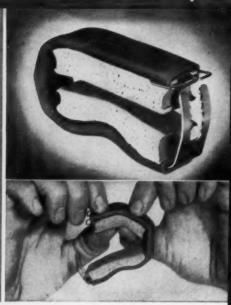
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Comfortable McGuire Urinal
Weighs only 3 ounces

Patients welcome this new, McGuire Urinal because of its light weight and comfortable elastic belt and leg bands.

A conical penile sheath is easily cut to fit so there is no leakage even when sitting or lying down.

It is easily emptied at the bottom or attached to Bard leg bag or to bedside drainage tube.

The McGuire Urinal is available in 3 belt sizes—Small, Medium and Large. A urinal with half the capacity is available for boys. Malleable Cunningham Clamp Easily Shaped to Fit

MANY thousands of patients have found the Cunningham Clamp effective and comfortable.

The rubber covered metal frame is easily shaped by the fingers to the proper contour. Further adjustment is possible with the ratchet catch which also guards against accidental opening.

Sponge rubber pads on top and bottom help to prevent undue restriction of blood vessels.

The Cunningham Clamp is available in four sizes—Infant, Juvenile, Regular and Large.

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(8)

and the 60-10-70 Basic Plan

Correct medication is important in initiating control that leads to development of good eating habits, essential in maintaining normal weight.1.23

Obedrin contains:

- · Methamphetamine for its anorexigenic and mood-lifting effects.
- · Pentobarbital as a corrective for any excitation that might occur.
- Vitamins B₁ and B₂ plus niacin for diet supplementation.
- · Ascorbic acid to aid in the mobilization of tissue fluids.

Obedrin contains no artificial bulk, so the hazards of impaction are avoided. The 60-10-70 Basic Plan provides for a balanced food intake, with sufficient protein and roughage.

Formula:

Semoxydrine HC1 (Methamphetamine HC1) 5 mg.; Pentobarbital 20 mg.; Ascorbic acid 100 mg.; Riboflavin 1 mg.; Niacin 5 mg.

Eisfelder, H.W.: Am. Pract. & Dig. Treat., 5:778 (Oct.) 1954. 2. Sebrell, W.H., Jr.: J.A.M.A., 152:42 (May) 1953. 3. Sherman, R.J.: Medical Times, 82:107 (Feb.) 1954.

Write for 60-10-70 Menu pads,

te for 60-10-70 Menu pads, Weight Charts, and samples of Obedrin. THE S. E. MASSENGILL COMPANY

BRISTOL, TENNESSEE

Rehabilitation in Hemiplegia

FLORENCE I. MAHONEY, M.D., DOROTHEA W. BARTHEL, R.P.T., AND JAMES P. CALLAHAN

Veterans Administration Teaching Group Hospital, Memphis

Most hemiplegic patients can be taught to be independent at home even with little or no muscle return in the involved side.*

The aims of physical medicine and rehabilitation in the care of hemiplegic patients after cerebral vascular accidents, brain injuries, or brain tumors include: [1] independent self-care and ambulation; [2] recovery of all possible muscle power and range of motion; and [3] training in coordination, balance, and endurance.

Therapy must be individualized for each patient. However, most persons, even those with little or no muscle return in either arm or leg, can be taught to [1] get in and out of bed and change positions in bed; [2] feed and dress themselves; [3] move around the house; [4] get in and out of chairs and cars; [5] attend to personal toilet; and [6] go up and down stairs with a handrail.

With slight assistance, these patients can usually get in and out of a bathtub and with no assistance can take a shower sitting on a stool.

Even with severe associated conditions such as cardiac decompensation preventing ambulation, the patient may be taught to be independent with a wheelchair. Motivation is essential. The earlier rehabilitation is begun, the more success that can be expected. The patient must not be allowed to learn to enjoy being an invalid. Not only will motivation come easier when the patient has not been waited on too long or become discouraged, but early treatment may prevent contractures and weakness, the sequels of prolonged bed rest.

Final results may be limited by mental confusion, incoordination, poor balance, poor circulatory response to exercise, and dependency needs of patient or family.

Treatment should be started at the bedside by the physical therapist as soon as the patient's condition has stabilized. With unconscious or semicomatose patients, only passive exercise can be given. As soon as simple commands can be carried out, self-care is started and the patient is taught to exercise the involved arm passively. Muscle reeducation begins with first evidence of returning muscle function.

Within limits imposed by the patient's condition, independence should be stressed from the start. With early therapy, the limits of tolerance to exercise and attention span must be observed. Such signs as flushed face, greatly increased

(Continued on page 197)

^{*}Rehabilitation of the hemiplegic patient: a clinical evaluation. South M. J. 48:472-480, 1955.



treating intranasal infections

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DRILITOL*

this widely prescribed antibacterial intranasal preparation offers the following advantages:

- 1. Two antibiotics—anti-grampositive gramicidin and anti-gramnegative polymyxin.
- An efficient decongestant Paredrine† Hydrobromide.
- 3. An effective antihistaminic to counteract allergic manifestations thenylpyramine hydrochloride.
- No risk of sensitization to—nor of engendering organisms resistant to—such widely used antibiotics as penicillin and the "mycins".

available in two forms:

'Drilitol Spraypak'

and

'Drilitol' Solution

Smith, Kline & French Laboratories, Philadelphia

*T. M. Reg. U.S. Pat. Off.

†T. M. Reg. U.S. Pat. Off. for hydroxyamphetamine hydrobromide, S.K.F.

'Spraypak' Trademark

is Speaking for You...

The World Medical Association is the *only* international organization empowered to speak for *you*—before other international organizations in the interest of the practicing physician.

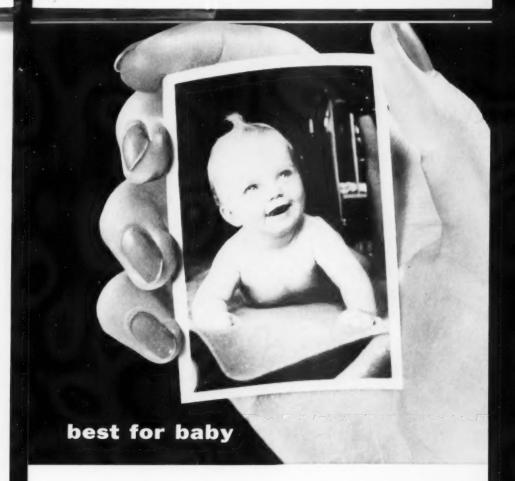
Here's what the World Medical Association does for you:

- 1. Gives you a voice in the formulation of policies to meet problems of medical care on an international level; represents your interest before such governmental or non-medical policy-making organizations as WHO and ILO.
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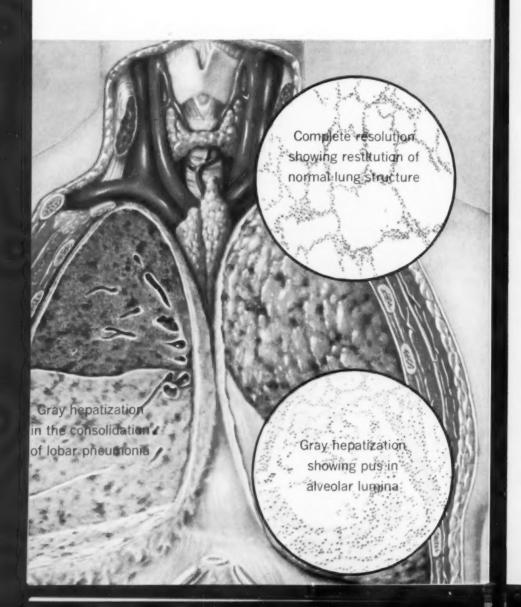


the most potent formula of its kind

The unique dual packaging of 'Vi-Mix Drops' protects the potency of moisture-labile vitamins and allows for an exceptionally high vitamin B₁₂ and C content. Pharmacist or mother simply adds the liquid of one bottle to the powder contained in the other. Eli Lilly and Company, Indianapolis 6, Indiana.

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Most useful antibiotic for the most prevalent infections...



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Over 90% of all bacterial infections of the chest are caused by organisms highly sensitive to 'Ilotycin.'

Fully as effective against pneumococci as any other antibiotic.

In pneumococcus pneumonia, fever and acute symptoms subside within forty-eight hours. The pneumococcus-killing action of 'Ilotycin' is especially valuable in elderly patients and in debilitated states.

More effective against streptococci than the tetracyclines.

'Ilotycin' is bactericidal. The great majority of originally positive throat cultures become negative within twenty-four hours. Thus the possibility of complications is minimized.

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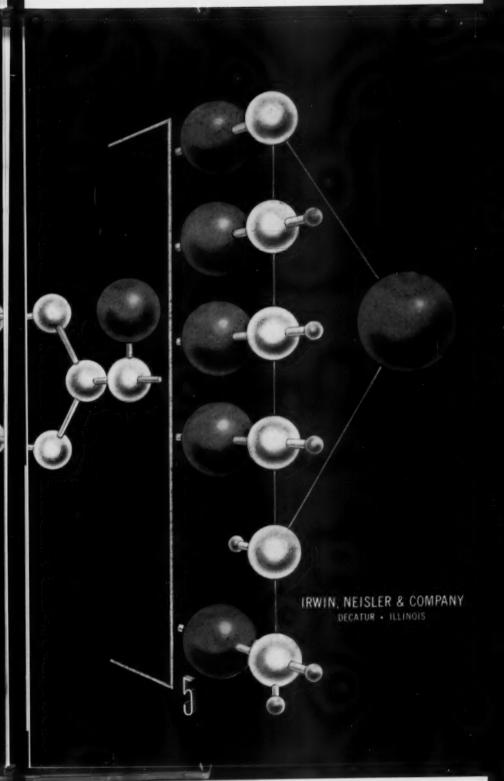
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pulse rate, fatigue, and breathing with the mouth open should be watched for.

The first steps in rehabilitation include: [1] coming to a sitting position on the side of the bed; [2] sitting balance; [3] standing at the side of the bed; [4] getting in and out of a chair; [5] snapping or buttoning pajama fasteners; [6] putting on and taking off pajama coat; [7] putting on and taking off house slipper; [8] putting on and taking off bathrobe and tying belt; and [9] attempting to walk.

Assistance is given at first as needed to provide confidence to the patient and keep him from falling. Assistance is gradually withdrawn as the condition permits.

Once the patient learns to be independent in an activity, everyone must refrain from helping him. However, the patient must not be allowed to attempt any activity alone before the point of safety and independence is reached.

Speech therapy should be prescribed for aphasic patients and those with temporary speech difficulty from muscle weakness. Occupational therapy is helpful in exercising the upper extremity, particularly with returning function, and in training finer coordination of fingers.

Rehabilitation in Rheumatoid Arthritis

EDWARD W. LOWMAN, M.D., NEW YORK UNIVERSITY-BEL-LEVUE MEDICAL CENTER, NEW YORK CITY, believes that patients severely crippled by chronic rheumatoid arthritis of long duration can be restored to usefulness with a combination of medical and rehabilitation methods. The efforts of a rheumatologist, psychiatrist, psychologist, psychiatric social worker, nurse, and physical and occupational therapists should be combined. Therapy with cortisone or oral hydrocortisone may be necessary to control the activity of the rheumatoid process.

A group of 38 hospitalized patients with chronic rheumatoid arthritis was treated with a combined medical and rehabilitation program. Of the group, 18 were severely disabled and 20 were less seriously crippled. The average age of the severely disabled group was 46 years, and disease had lasted about thirteen years. The average age of the less severely disabled group was 40 years, with a disease duration of about seven years.

Of the 18 severely disabled, 14 have been discharged from the hospital; 7 of these are completely self-sufficient and the remainder are partially self-sufficient. All of the 20 patients with less severe disabilities have been discharged; 15 are completely self-sufficient and the remainder are partially so.

Rehabilitation of the chronic rheumatoid arthritic: a two-year progress report, Arch. Phys. Med. 36:431-434, 1955.

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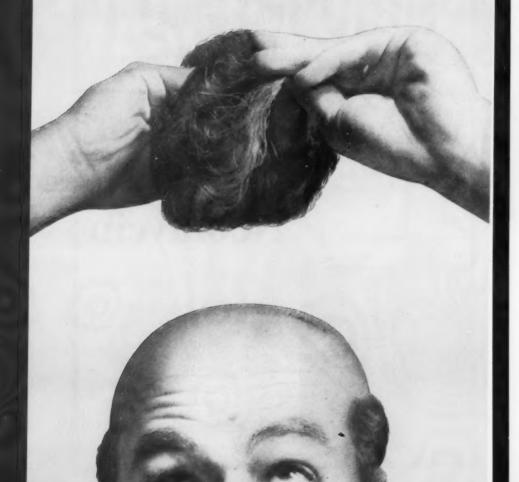
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Sequelae of Spinal Cord Injuries

ERNEST BORS, M.D.

University of California at Los Angeles

The rehabilitation of the patient with spinal cord trauma requires medical, physical, and vocational therapy applied from the beginning of the injury.*

Diagnosis of the level and extent of a spinal cord injury is necessary before any treatment can be given. Sensory and motor signs will indicate the level of injury.

Emergency treatment is necessary for accompanying abdominal or thoracic injuries, blood loss, and shock. Estimation of the spinal fluid dynamics and roentgenographic findings will determine necessity of exploration of the spinal cord. Exploration relieves the pressure and edema, preventing further damage to the cord and correcting existing lesions. If the spinal cord is compressed by bone, laminectomy may be done within a week for cervical lesions and within three or four days for injury lower down.

Later, corrective neurosurgical procedures may become necessary to alleviate pain, spasticity, or paroxysmal hypertension. Lesions of the cauda equina cause a shocklike or shooting pain extending along the legs down to the toes and can be abolished by anterolateral chordotomy at vertebral levels of T1 and T2. Abdominal pain in pa-

tients with lesions above the cauda equina is vague, burning, tingling, or aching and difficult to treat.

The spasticity of the extremities can be prevented by mobilizing the lîmbs passively, stretching the joints, massaging the skin, and by hydrotherapy and dry heat. Mechanical and electric muscle fatiguing is also helpful. The Hubbard Tank or a swimming pool is employed for hydrotherapy. Abolition of spasticity may require peripheral nerve section, anterior rhizotomy, or injection of absolute alcohol into subarachnoid space.

Patients with lesions above T4, especially in the cervical region, may have attacks of paroxysmal hypertension precipitated when hollow viscera such as the bladder or rectum are distended or when position 18 shifted. Perspiration, flushed face, and headache are symptoms of an attack which may cause brain hemorrhage. Correction is accomplished by alcohol block, posterior rhizotomy, sacral neurotomy to denervate the bladder and rectum, or by sectioning nerves S2 to S5.

The main urologic problem is bladder function. With upper motor neuron lesions, the bladder should ultimately resume function on a spinal reflex basis; with lower mo-

(Continued on page 206)

^{*}Sequelae of spinal cord injuries. Phys. Therapy Rev. 35:177-181, 1955.

SUSPENSION

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Triple Sulfonamides (Sulfadiazine, Sulfamerazine, Sulfamethazine)

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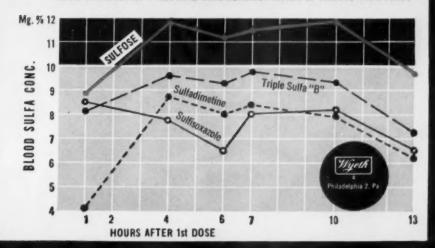
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1. Berkowitz, D.: Antibiot. & Chemo. 3:618 (June) 1953

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tor neuron lesions, the bladder has to be emptied either by Credé pressure or by straining. Early treatment consists of urethral catheterization, tidal drainage, bladder training. Transurethral resection, severance of the pudendal nerves, or sacral neurotomy may be necessary. Rehabilitation is not always permanent so the patient should remain under periodic supervision for a year. Urethral abscesses, diverticula, and sinsuses may result from catheter pressure.

Upper urinary tract problems concern the formation of calculi in the kidney or ureter. Vesicoureteral reflux may cause dilatation of the ureter and hydronephrosis.

Decubitus ulcers can be prevented by maintaining a good general and nutritional condition of the patient through multiple feeding, a high-protein diet, blood transfusions, and by injections of male hormones. Locally, pressure is averted by the use of Stryker or Foster frames and frequent turning. Surgical therapy may be necessary once the ulcers are formed.

Contractures in the hands of quadriplegic patients can be counteracted by paraffin baths. Tenotomies, myotomies, and capsulotomies may become necessary to correct existing contractures. Prosthetic appliances are often required to splint the site of injury, help in ambulation, and aid in eating, shaving, or writing.

Proper bowel function is maintained by diet, regularity, and proper position during defecation. The commonest metabolic defect is osteoporosis and excretion of large amounts of calcium in the urine. The urine content of calcium may be diluted by a high fluid intake. Osteoporosis is lessened by an upright position, the use of a tilt table, and active ambulation.

The paraplegic patient is often self-centered, depressed, and regressive and must be carefully handled psychologically. Although vocational and educational rehabilitation is desirable, the active parts of industrial rehabilitation are postponed until the patient is physically fit to participate actively.

¶ CHRONIC DERMATOSES in which a psychogenic factor is prominent may be effectively treated by daily administration of 4 to 8 mg. of alseroxylon (Rauwiloid), a concentrate of hypotensive alkaloids extracted from Rauwolfia serpentina root. Richard J. Ferrara, M.D., of Detroit Receiving Hospital and Hermann Pinkus, M.D., of Wayne University, Detroit, report that pruritus, lichenification, and other manifestations were ameliorated in 35 of 36 subjects; 1 patient with urticaria was not benefited. Relief from pruritus may be due to the sedative effect of the drug on the midbrain. Insomnia was completely relieved in 7 and diminished in 3 of 10 persons. Side effects were few except for extreme fatigue in 1 individual.

Arch. Dermat, 72:23-28, 1955.

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Skin Diseases of Infants

C. BARRETT KENNEDY, M.D., V. MEDD HENINGTON, M.D., AND FRANK H. DAVIS, M.D.

Louisiana State University, New Orleans

A proper plan of skin care will prevent many skin conditions that are commonly seen in the immediate postnatal period, and most of those that do develop can be readily controlled.*

THE infant's skin differs in many ways from that of the adult. Skin in infancy is thinner and has less keratin and pigment, so that protection against sunlight, friction, and changes in temperature is not as great as in adults.

Apocrine sweat glands, prominent in the adult axilla, groin, and anal region, are not developed in infancy. The excretory sweat glands provide the secretory mechanism and, together with sebaceous glands, begin to deposit secretions on the skin at a very early age. This provides a protective acid mantle with gaps in the axilla, the interdigital spaces, and the genitocrural folds which are vulnerable to disease.

The blood vessels of the skin serve as shock tissue and are involved in some allergic conditions. Liberation of histamine and reaction with the reagins in the endothelial cells of the capillaries of the skin produce the type of urticarial reaction occasionally seen in infants. Such phenomena are influenced by the vitamin levels in the body.

Care of newborn skin involves simple measures. Skin care is a twenty-four-hour duty and should not be accomplished in an hour or two in the morning.

Immediately after birth, all gross blood, mucus, and meconium are gently removed with clear water, leaving the vernix caseosa undisturbed. The scalp is untouched until washed with bland soap and water after one day in full-term infants and one week in prematures. If bathing and local cleansing with clear water alone are not adequate, plain soap is employed.

Oils and greases should not be applied to the skin, especially of prematures. Medicated lotions are particularly harmful. Powders also are usually avoided, athough bland, nonborated talcs often have a cooling effect. The unnecessary use of medication in contact with the infant's skin should be avoided.

Diapers are changed as soon as soiling occurs. No application is a substitute for strict cleanliness. Diapers may be rinsed in the toilet bowl then put aside for later washing. Zephiran chloride, 1 tbs. to a washing, is a satisfactory diaper

(Continued on page 212)

^{*}Skin diseases in infants and young children: a combined pediatric-dermatologic problem. J. Louisiana M. Soc. 107:284-291, 1955.

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Valid tests, clinical trials, and long use proved the Triple Sulfas offer greater relative safety than single sulfas, and they compare favorably with all potent therapeutic agents in this respect. In addition, the Triple Sulfas are distinguished for their established efficacy, broad-spectrum activity, and outstanding economy. Alone or in

combination with other therapeutic agents, the Triple Sulfas are available from leading pharmaceutical manufacturers under their own brand names. Remember: not all sulfas are Triple Sulfas. Ask any medical representative about the Triple Sulfa products his company offers!





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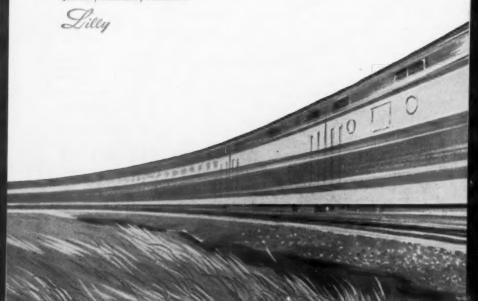
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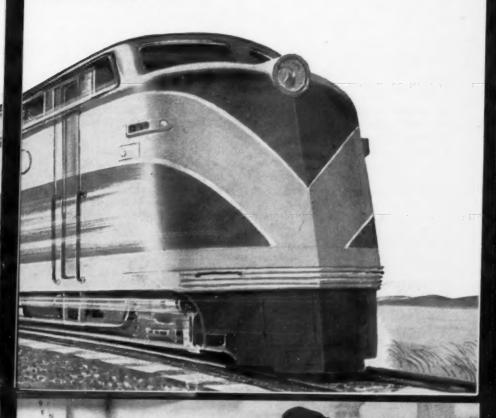
These three ingredients are clinically equivalent to 1½ U.S.P. units of APA potency.

Equal to over 1 Gm. Ferrous Sulfate, U.S.P.

Note: Special Liver-Stomach Concentrate, Lilly, supplies, in addition to intrinsic factor, natural compounds that add the broad nutritional support so important in all types of anemia.

CONVENIENT—Therapeutic quantities of all known factors are provided in only two pulvules daily—the ideal dosage in most anemias.

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rinse. If ammoniacal dermatitis develops, the addition of a few drops of dilute hydrochloric acid to the formula will expedite healing. Fleet's Phospho-Soda, 30 drops to a quart of formula, will correct ammoniacal urine.

Common benign skin conditions in the newborn are listed.

1] Milia, which are probably retention products of sebaceous glands, mainly affect the eyelids, cheeks, forehead, and temples. Ordinarily, no treatment is required, but occasionally curettage or excision is done.

2] Miliaria (sudamina) crystallina are small vesicles that result from obstruction of sweat ducts and usually last a few hours to a few days. The vesicles disappear if the baby is kept cool and free from perspiration.

3] Toxic erythema, a dermatitis resembling flea bites, is temporary

and inconsequential.

4] Folliculitis is a perifollicular infection caused by hemolytic Staphylococcus aureus. The lesions are treated by sponging with alcohol and application of bacitracin ointment. Systemic antibiotics may be needed with severe involvement.

In newborns, petechial hemorrhages are common and disappear spontaneously. The skin may be very loose and wrinkled, but the slack is taken up as the child grows. As a rule, body skin scales and peels during the first week of life. So-called cradle cap is a natural collection of scales and sebaceous secretions and usually is harmless. However, if not cared for, preferably by weekly applications of olive

oil, cradle cap may lead to seborrheic dermatitis.

Ordinary heat rash, miliaria rubra, is caused by retention of excretory secretions. Obese infants are especially susceptible. Treatment consists of keeping the baby cool and controlling activity. Friction from clothing is curtailed, and use of soaps that cause drying of the skin and that dissolve the lipid covering should be avoided. Soothing dusting powders may be applied.

Intertrigo, or chafing, is seen wherever cutaneous surfaces are held in apposition, as in the groins. Impervious clothing and tight rubber covers over wet diapers are contributing causes. The use of an incandescent light to provide dry heat and daytime application of drying powder help to control the condition. At night, mild lotions or so-called 1-2-3 ointment is helpful. The latter contains 1 part Burow's solution, 2 parts anhydrous lanolin or Aquaphor, and 3 parts plain Lassar's paste.

With secondary infection, compresses of Burow's solution, 1 Domeboro tablet to 1 qt. of water or skim milk, or of Zephiran chloride aqueous untinted, 1:2,000 or 1:5,000, are applied. Water should not be used except in starch or colloidal baths. Soaps are also avoided. A plain dusting powder may be used.

Nonallergic infantile eczema may be caused by too frequent bathing or hard scrubbing. Strongly alkaline soaps may contribute to the disorder. The best treatment

(Continued on page 216)



She'll enjoy this pregnancy

Fifty per cent of all pregnant women even those on a "good" prenatal diet—suffer calcium deficiency symptoms.*

New evidence shows that because of calcium-protein antagonism, calcium phosphate supplements may actually cause a deficiency, just when optimum levels are desired. And high-protein diets are also rich in calcium-draining phosphorus. Thus leg cramps are a minor symptom of major significance: they may indicate seriously low calcium.

Calcisalin, a complete prenatal supplement, containing 100% of the MDR for vitamins and iron, is also completely physiologic. Phosphate-free and phosphorus-eliminating, the calcium lactate assures readily assimilable calcium, while the aluminum hydroxide gel takes up excess dietary phosphorus without interfering with the value of other nutrients.

"Noncomplainers" consider leg cramps "normal" and complain only when cramps are severe. Thus the number of complaints does not truly reflect the higher incidence of calcium depletion. To safeguard against serious, "silent" calcium depletion, all women who enjoy a highprotein prenatal diet can benefit from Calcisalin's phosphate-free, phosphoruseliminating properties.

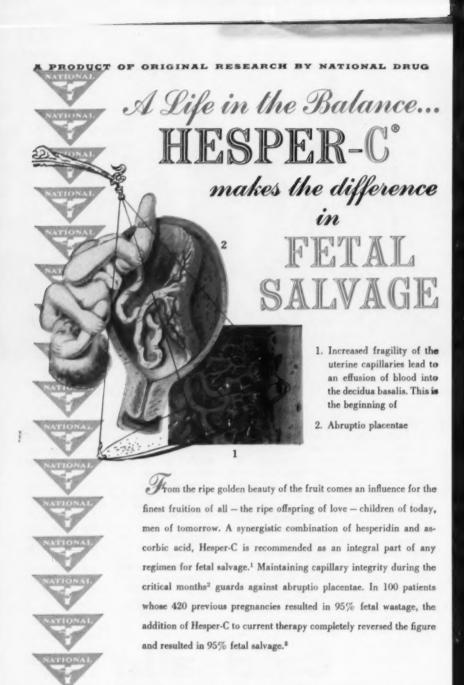
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*Wolff, J. R.: Illinois M. J. 105:6 (June) 1954.

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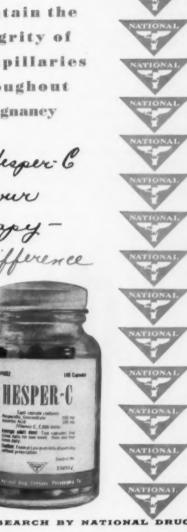
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REFERENCES

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- S. Javert, C. T., Ohst. & Gyn. 8:4, 1954

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is the use of Lassar's paste with 2% cottonseed oil or olive oil. Superfatted soaps are also recommended. Fluid intake should be increased.

True infantile allergic eczema is probably the most severe skin disorder in infants, and cow's milk is the usual antigenic offender.

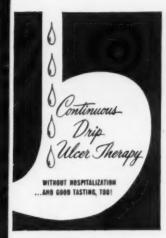
Other common allergens include eggs, wheat, chocolate, citrus fruits, peas, spinach, fish, cod liver oil, house dust, feathers, kapok, glue, human or animal danders, clothing dyes, wool, nylon, rubber, plastic materials, baby oils, and fungi.

Multiple offenders are common, and identification is not easy. Skin testing in infants is not accurate. Elimination diets are complicated; careful questioning of the mother is often of more value in determining food allergies.

When allergies are known to exist in the family, great care should be taken with feeding and exposure to other allergens. Breast feeding is recommended. The mother should avoid eggs and drink as little milk as possible. When nursing is not feasible, milk substitutes are used. These include Nutramigen, Mull-Soy, goat's milk, taro milk, meat milk, casein digests, or cereal substitutes.

The most satisfactory local application is 1% naphthalan in Lassar's paste. Oral cortisone may be employed in stubborn cases. Infection must be controlled, and some form of antibiotic therapy systemically or locally may be required.





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The delicately flavored tablets dissolve slowly in the mouth (not to be chewed or swallowed). They are not noticeable and do not interfere with speech.

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*Steigmann, F., and Goldberg, E.: Ambulatory Continuous Drip Method in the Treatment of Peptic Ulcer, Am. J. Digest. Dis. 22:67 (Mar.) 1955.

†Mg trisilicate 3.5 gr.; Ca carbonate 2.0 gr.; Mg oxide 2.0 gr.; Mg carbonate 0.5 gr.

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Obesity and Anorexia in Children

SHERVERT HUGHES FRAZIER, JR., M.D., MARY H. FAUBION, M.D., MARY E. GIFFIN, M.D., AND ADELAIDE M. JOHNSON, M.D. Mayo Clinic and Foundation, Rochester, Minn.

The tendency of a child to overeat or undereat often reflects compliance with a conscious or unconscious wish that has been communicated by one or both of the parents.*

The development of severe somatic symptoms in neurotic persons as a means of solving emotional problems is accepted as psychosomatic disease. The symptomatology of such disease varies widely. Obesity or anorexia may stem from emotional insecurity in relation to the mother in the first one or two years of life.

The neuroses of the parent initiate those of the child, and the mutual neuroses interdigitate effectively. The parents' emotional conflicts lead to sanctioning and fostering of trouble in the child. The means by which parents consciously or unconsciously communicate disturbed wishes to the child are often difficult to detect. The child prefers to give parents pleasure rather than displeasure. Therefore, both consciously and unconsciously, the child does the thing that is in keeping with the parents' dominant wish, whether it be overeating or undereating.

In families where children have

neurotic, psychosomatic, psychotic, or antisocial problems, mixed feelings of affection, mistrust, anger, and respect are found between the spouses and toward the children. The marital relationship is not completely satisfactory, and many of the frustrations that arise are deflected in specific fashion to each child. The scapegoat child is the one receiving the brunt of parental conflict. Frequently, a family has several scapegoat children, each reflecting a different conflict and reacting in a somewhat different fashion.

In children, 5 types of neurotic eating difficulties may be exhibited; [1] family obesity, [2] clinical obesity, [3] skinniness, [4] ulcer problems, and [5] anorexia nervosa. In each family concerned, the marriage is relatively unhappy and the parents show ambivalence toward the child. The hostile component increases in intensity from type 1 to 5.

Ambivalence toward eating is found in all instances except family obesity. With family obesity, the parents show ambivalence toward the child but no ambivalence toward food. Everyone tends to be overweight and is very happy about food and obesity. The children are rarely brought to the physician for

^{*}A specific factor in symptom choice. Proc. Staff Meet., Mayo Clin. 30:227-243, 1955.



"... Whenever I run out of Serpasii my tension headaches come back"

Typical comment from a patient when asked to describe the effect of Serpasil; patients suffering from anxiety states with minimal or no depressive features showed moderate to marked improvement on dosages varying from 0.25 mg. to 2.5 mg. of oral reserpine daily.

Drake, F. R., and Ebough, F. G.: Ann. New York Acad. Sc. 61:198 (April 15) 1955.

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obesity, but, in the course of some other treatment, the physician may find an opportunity to initiate prop-

er psychotherapy.

Clinical obesity is a medical problem. The parent shows strong ambivalence toward the child and also some ambivalence toward food. The mother is usually thin and rejects the child more than does the mother in familial obesity. She is alternately critical and approving of the child's eating. The mother's problems prevent her from gaining satisfaction from food and she therefore begrudges the child's ability to do so.

The table is a battlefield. The mother first criticizes the child's eating, then tempts the child with something particularly appealing. The child knows that if eating is continued, ridicule is the reward but if eating is curbed, intense scorn and rejection are endured. Such children are fat and unhappy, with obvious depression and irritability.

The parents of the skinny child show strong ambivalence toward the child and offer food in a hostile manner. The child rarely is brought to the physician about the eating problem. The obese mother literally begrudges and steals food from the child. Unless the mother understands her excessive need for food and the hostility at giving food to others, the child remains skinny and emotionally very ill.

Some thin children have ulcer problems. The parents show strong ambivalence toward the child and feeding. Food is specifically begrudged, and the child feels guilty if more than a small amount is consumed. The parent cannot enjoy or

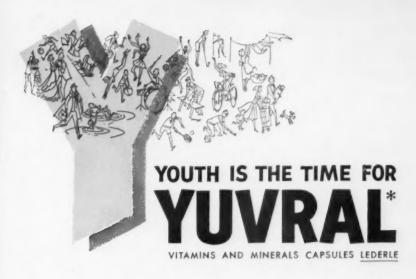
generously give food.

With anorexia nervosa, the patient literally starves to death because of murderously ambivalent feelings on the part of one or both parents. In some instances, the parent repeatedly desires the death of the child, and the child realizes this. The realization may be repressed but continues to act as a driving force etiologically.

All 5 neurotic eating patterns require psychotherapy directed toward the parent. When parents realize that their actions are the result of unconscious feelings, the need for the symptom is relinquished. In many instances, the child then loses the symptoms which were the result of compliance with parental wishes.

¶ PSYCHIATRIC DISORDERS may be more effectively treated with a combination of chlorpromazine and reserpine than with either drug alone. The medicaments act synergistically in relieving tension, but each drug cancels many of the side reactions of the other. Frederick Lemere, M.D., of the University of Washington, Seattle, prescribes an initial dose of 1 mg. of reserpine at bedtime and 25 mg. of chlorpromazine three times a day. Subsequent therapy is regulated by individual response.

Arch. Neurol. & Psychiat. 74:1-2, 1955.



For the big and important age group between pediatrics and geriatrics, Lederle offers Yuvral Capsules, a new diet supplement. A highly potent formula including 11 vitamins, 12 minerals, and Purified Intrinsic Factor Concentrate—all in a dry-filled, soft-gelatin capsule with no unpleasant aftertaste.

Among adolescents and young adults, there are many "nutritionally starved" persons: those with strong dislikes for certain foods, those who won't drink milk, young women on self-prescribed diets. Just one Yuvral Capsule daily assures them of an adequate supply of essential vitamins and minerals.

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Iodine (as KI)	0.15	mg.
Boron (as Na ₂ B ₄ O ₇ • 10H ₂ O)	0.1	mg.
Copper (as CuO)	. 1	mg.
Fluorine (as CaF ₂)	0.1	mg.
Purified Intrinsic Factor Concentrate	0.5	mg.
Magnesium (as MgO)	1	mg.
Manganese (as MnO ₂)	. 1	mg.
Potassium (as K ₂ SO ₄)	. 5	mg.
Zinc (as ZnO)	0.5	mg.
Calcium (as CaHPO4)	69	mg.
Phosphorus (as CaHPO4)	53.8	mg.
Dibasic Calcium Phosphate	236	mg.
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LEO ALEXANDER, M.D. Tufts College, Boston

Prognosis of mental disease may be based on blood pressure response to injection of epinephrine and of Mecholyl.*

Intravenous administration of 0.025 mg, of epinephrine to patients with mental disease generally precipitates a moderate or pronounced increase in blood pressure. The patient may experience accompanying anxiety. Increase of less than 20 mm. of mercury is considered inadequate.

When 10 mg. of Mecholyl is injected intramuscularly, the blood pressure may remain constant, fall, rise, or fluctuate. An increase is an adrenergic response, and a decrease is a cholinergic reaction.

In general, prognosis is best for patients who show the greatest response, either adrenergic or cholinergic, to Mecholyl and is slightly less favorable when the blood pressure reaction is moderate. The recovery rate is intermediate among mental patients with autonomic responses similar to the reactions of healthy persons not under stress. Outcome of therapy is poorest when the response to injection of epinephrine is inadequate.

Among adrenergic overreactors, precipitation of anxiety by epinephrine is a favorable sign. Conversely, the outcome of therapy for cholinergic overreactors is best when epinephrine-precipitated anxiety does not occur.

Electroshock therapy is most effective for patients with a strong adrenergic or cholinergic response. If the blood pressure response to epinephrine is inadequate, insulin coma therapy may be curative but electroshock and psychotherapy, alone or combined, are ineffective.

The success of psychotherapy does not depend on whether adrenalin-precipitated anxiety occurs. Of patients who exhibit the greatest cholinergic responses to Mecholyl, about half are benefited by psychotherapy, but 77% respond to electroshock treatments. On the other hand, when the decrease in blood pressure is moderate after Mecholyl administration, psychotherapy is as effective as electroshock; the latter technic should be used only for symptomatic treatment.

The epinephrine-Mecholyl test is more valuable than the psychiatric diagnosis for determining prognosis among patients with the most favorable or unfavorable autonomic reaction pattern. The recovery rate is high or low, depending on blood pressure response, regardless of whether the diagnosis is schizoaffective psychosis, affective psychosis, psychoneurosis, or schizophrenia.

^{*}Epinephrine-Mecholyl test (Funkenstein test), Arch. Neurol, & Psychiat. 73:496-514, 1955.

aging

changes the bone picture

OSTEOPOROSIS IS "PHYSIOLOGIC" TO SOME DEGREE AFTER THE MENOPAUSE*

Postmenopausal osteoporosis is the most prevalent type of osteoporosis and probably the most common of all systemic bone disorders.

Gonadal function in the elderly "is more markedly reduced in females

than in males." According to Reifenstein,* this explains why the incidence of osteoporosis is higher in the female.

DIFFICULT TO DETECT

Clinical signs of osteoporosis are usually manifest long before x-ray proof of the disease can be obtained. At least 30 per cent of the normal calcium content must have disappeared before it becomes possible to detect radiologically any change in bone density.

SIGNS AND SYMPTOMS

- "low back pain" or dull, tired, aching feeling along the spine
- nervousness, weakness, easy fatigability
- · "rounding" of the shoulders
- increased susceptibility to fracture, particularly of the hip, in elderly women

If all women in the postmenopausal age group "are carefully studied, about 10 per cent of them will be found to have clinical osteoporosis."*



Lumbar vertebrae, magnified sagittal section

- 1. Typical atrophic changes in postmenopausal osteo-porosis.
- 2. Healthy bone matrix with normal density, structure, and growth pattern.





OSTEOPOROSIS RESPONDS TO COMBINED ESTROGEN-ANDROGEN THERAPY

Why "Premarin" with Methyltestosterone Therapy is Recommended

"Premarin" with Methyltestosterone therapy utilizes the complementary action of estrogen and androgen on bone and protein metabolism. Estrogen stimulates osteoblastic activity and increases calcium and phosphorus retention while androgen exerts an anabolic or protein-forming action. Side effects are not likely to occur because of the opposing action of the two steroids on sex-linked tissues.

RESULTS TO BE EXPECTED

Pain in the spine and other bones may be relieved, substantially or completely, in a period of weeks to months. An increase in body weight is usually noted, and the general well-being of the patient is much improved. The prognosis for bone recalcification is good, provided therapy is continued for extended periods.

SUGGESTED DOSAGES

"Premarin" with Methyltestosterone may be administered in the following dosage schedule: 2 or 3 No. 879 (yellow) tablets daily, or 4 to 6 tablets No. 878 (red) daily.

In the female, it is suggested that combined therapy be given in 21 day courses with a rest period of about one week between courses, and be continued for 6 to 12 months; the patient may then be maintained with cyclic therapy employing "Premarin" Tablets alone.

In the male, a careful check should be made on the status of the prostate gland when therapy is given for protracted intervals.

*Reifenstein, E. C., Jr., in Harrison, T. R.: Principles of Internal Medicine, Philadelphia, The Blakiston Company, 1950, pp. 651, 655.

"PREMARIN" with METHYLTESTOSTERONE

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In Dysmenorrhea

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Other Indications

- Osteoporosis
- Postpartum breast engorgement (when lactation is to be suppressed)
- · Frigidity
- Climacteric (female and male) in certain cases
- Malnutrition (in the female)
- As an adjunct to treatment with cortisone in rheumatoid arthritis

SUPPLIED IN TWO POTENCIES: the *yellow* tablet (No. 879) contains 1.25 mg. of conjugated estrogens (equine) and 10 mg. of methyltestosterone; the *red* tablet (No. 878) contains 0.625 mg. and 5 mg. respectively. Both potencies are available in bottles of 100 and 1,000 tablets.

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*Fremont, R. E.; Rimmerman, A. B., and Shaftel, H. E.: Postgrad. Med. 10:216, 1951.

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Medical Forum

Discussion of articles published in Modern Medicine is always welcome. Address all communications to The Editors of Modern Medicine, 84 South 10th St., Minneapolis 3, Minn.

Breech Delivery in General Practice*

QUESTION: What is the proper management of breech presentation?

Comment invited from

WILLIAM B. STROMME, M.D.

TO THE EDITORS: Breech delivery carries with it a fetal mortality approximately 3 times that of cephalic birth. We are convinced from our own experience and that of others that the incidence of breech presentation at birth can be reduced to 2% through external version in the last trimester. If performed without anesthesia, the risk in turning the fetus is negligible. Accordingly, then, external cephalic version, when feasible and when no contraindications exist, is the first recommendation in management of breech presentation.

When version is not successful or when the breech presentation is not recognized until the onset of labor, vaginal delivery may be accepted if the pelvis is adequate and the baby not of excessive size. X-ray pelvimetry should be obtained in all cases. We prefer local pudendal block anesthesia supplemented by nitrous oxide-oxygen analgesia in order to gain the patient's help in bringing the fetus *Modern Medicine, Apr. 15, 1955, p. 109.

through the birth canal. It is well to explain to the patient beforehand the mechanism of breech delivery and how she may help.

The anesthetic block is delayed until the buttocks begin to protrude through the introitus. A deep mediolateral episiotomy is then performed, after which bearing down contractions result in delivery of the buttocks and lower extremities. No assistance is given, except perhaps the liberation of one or both thighs in the frank breech presentation. As the body is delivered and the umbilicus comes into view, the cord is loosened and its pulsations and the time noted. Further bearing down will bring the anterior scapula under the symphysis.

Exposure of the anterior shoulder may be aided by traction downward on the trunk of the baby at this time. The anterior shoulder and arm are delivered by hooking a finger or two over the forearm and sweeping it outward across the chest. Should this fail, rotation of the trunk away from the impeded shoulder will cause its liberation. The body is then elevated and the posterior shoulder delivered.

Fundal pressure is carefully avoided until the shoulders are freed to prevent nuchal locking of the arms. Delivery of the aftercom-



Gastric Hyperacidity: etiology

People being people, environmental factors contributory to gastric hyperacidity are hard to remove, even when their role is clearly defined. But, the physician has a sure, simple—even pleasant—way of relieving the acid distress caused by:

- · dietary indiscretion
- · nervous tension
- · emotional stress
- · food intolerances
- excessive smoking
- · alcoholic beverages

Gelusil promptly and effectively controls the excessive gastric acidity of "heartburn" and chronic indigestion. And it affords equally rapid relief in peptic ulcer. Sustained action is assured by combining magnesium trisilicate with the specially prepared aluminum hydroxide gel. Free from constipution: Gelusil's aluminum hydroxide component is specially prepared: the concentration of aluminum ions is accordingly low; hence the formation of astringent—and constiputing—aluminum chloride is minimal.

Free from acid rebound: Unlike soluble alkalies, Gelusil does not over-neutralize or alkalinize. It maintains the gastric pH in a mildly acid range—that of maximum physiologic functioning.

Dosage—2 tablets or 2 teaspoonfuls two hours after eating or when symptoms are pronounced. Each tablet or teaspoonful provides: $7\frac{1}{2}$ gr. magnesium trisilicate and 4 gr. aluminum hydroxide gel.

Available—Gelusil Tablets in packages of 50, 100, 1000 and 5000. Gelusil Liquid in bottles of 6 and 12 fluidounces.

Gelusil°

Antacid . Adsorbent

WARNER-CHILCOTT

ing head is not attempted until it has entered the pelvis. When spontaneous delivery does not occur, the Mauriceau maneuver can be relied on in all but the most difficult cases. If unsuccessful, then the Piper forceps, correctly applied from below and assisted by strong fundal pressure, will extract the aftercoming head.

The aim in obstetric management should be one of assistance rather than interference with the normal mechanism of spontaneous breech birth.

WILLIAM B. STROMME, M.D. Minneapolis

Symptoms Associated with Achlorhydria*

QUESTION: What symptoms may justly be attributed to simple achlorhydria?

Comment invited from

JOSEPH B. KIRSNER, M.D. JOHN R. ROSS, M.D. FRANK B. MC GLONE, M.D.

► TO THE EDITORS: In general, I agree with the observation of Dr. Emanuel M. Rappaport. Achlorhydria per se is not a significant cause of gastrointestinal symptoms. The finding may be of interest in relation to screening surveys for the detection of patients prone to gastric cancer.

Of course, the diagnosis of achlorhydria must be established beyond doubt by careful gastric analysis and the use of potent secretory stimulants, such as histamine or its analogue, histalog. The "Modern Medicine, July 15, 1955, p. 85.

test occasionally may require repetition, since considerable amounts of acid may be demonstrated in a second or third analysis after previous unaccountably negative studies. The Ewald test meal and the basal secretion are inadequate for this purpose.

The distinction between simple achlorhydria and anacidity also requires emphasis. With achlorhydria, the pH of the gastric content ranges between 3.5 and 7.0; the stomach seems capable of secreting small amounts of acid; the values actually may decrease after injection of histamine, suggesting partial activation of the secretory mechanism. With anacidity, with pernicious anemia, the stomach seems incapable of secreting any acid; the pH values of the gastric content range between 7.0 and 8.2 and do not change significantly after injection of histamine.

In instances of achlorhydric anemia, the inference is that the underlying pathologic process in some manner is responsible for the absence of acid and for the symptoms described by the patient. The increased incidence of achlorhydria with advancing age in the general population suggests that the process, in certain instances at least, may represent a physiologic atrophy of the gastric mucosa with loss of parietal cells. While atrophy of the stomach is demonstrable gastroscopically in patients with achlorhydria, the mucosa often may appear normal. Furthermore, severe gastric atrophy may be noted gastroscopically in persons secreting

(Continued on page 234)

in the anemias...

is ...

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"...cobalt is indicated in all cases in which the slowly regenerating marrow requires a more forceful hematopoietic stimulus than is given by physiologic activators or a therapeutically elevated iron level."

-Wolff, H.: Med. Monatsschr. 5:239 (April) 1951.

"These studies show that oral cobalt therapy can stimulate erythropoiesis..."

-Gardner, F. H.: J. Lab. & Clin. Med. 41:56 (Jan.) 1953,

"Cobalt seems to stimulate...the bone marrow which undergoes progressive hyperplasia of all cellular elements with a consequent discharge of erythrocytes into the circulation."

-Kato, K.: J. Pediat. 11:385 (Sept.) 1937.

"In our series of cases, cobalt proved to be a powerful stimulant to erythropoiesis..."

—Rohn, R. J.; Bond, W. H., and Klotz, L. J.: J. Indiana State Med. Assn. 46:1253 (Dec.) 1953.

"Hematopoietic responses to therapy with cobaltous chloride, which were observed in each patient, indicate that cobaltous chloride produced an active stimulus to erythropoiesis...."

-Robinson, J. C.; et al.: New England J. M. 240:749 (May) 1949.

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IN INFANCY "The therapy used by us [Roncovite] was approximately equivalent in results to the transfusion of 1½ pints of blood weekly in adults."

-Rohn, R. J.; Bond, W. H., and Klotz, L. J.: J. Indiana State Med. Assn. 46:1253 (Dec.) 1953.

"Cobalt appears to be of value in the prevention of the early anemia of premature infants, and if iron is administered simultaneously the risk of an iron deficiency anemia developing from the fourth month onwards is considerably reduced."

> -Coles, B. L., and James, U.: Archives of Disease in Childhood, 29:85 (April) 1954.

As compared with controls, 16 premature infants receiving Roncovite Drops showed "significantly greater values in the mean hemoglobin and hematocrit levels..." -Ouilligan, J. J., Jr.: Texas St. J. Med. 50:294 (May) 1954.

IN PREGNANCY

"Evidence suggests that iron and cobalt provide the most effective hematinic for pregnant women."

-Holly, R. G.: Journal-Lancet 74:211 (June) 1954.

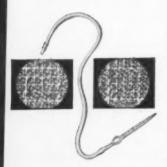
"...57 of the 58 patients (98.2 per cent) maintained or improved their hemoglobin [with Roncovite]..."

-Holly, R. G.: Obstet. & Gynecol., 5:562 (April) 1955.

IN CHRONIC LOW-GRADE INFECTIONS

"Cobalt appears to be a valuable drug in the treatment of anemias secondary to chronic diseases."

-Weinsaft, P. P., and Bernstein, L. H. T.: Amer. J. Med. Sc., Vol. 229, (Sept.) 1955.



"In all patients (chronic suppurative infection) a reticulocytosis was observed within 6 days. This was followed by increases in red-cell counts, in hemoglobin values, in blood volume and in total circulating hemoglobin.'

-Robinson, J. C., et al.: New England J. M. 240:749 (1949).

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The original, clinically proved, pure cobalt-iron product.

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IN INFANCY "There were no toxic effects in any case."

-Coles, B. L.: Archives of Disease in Childhood, 30:150 (April) 1955.

"None of them [infants] showed harmful effects despite the large doses."

-Quilligan, J. J., Jr.: Texas St. J. Med. 50:294 (May) 1954.

IN PREGNANCY "No toxic manifestations associated with its use have been observed."

-Holly, R. G.: Obstet. & Gynecol. 5:562 (April) 1955.

IN CHRONIC LOW- "With 60 mg. (cobalt chloride) a day by mouth after GRADE INFECTIONS meals neither ourselves nor our patients experienced untoward symptoms."

—Robinson, J. C.; James, G. W., and Kark, R. M.: New England J. Med. 240:749 (May) 1949.

"In our hands, cobalt appeared to be a useful and valuable drug, well tolerated and devoid of undue toxicity."

> -Weinsaft, P. P., and Bernstein, L. H. T.: Amer. J. Med. Sc., Vol. 229, (Sept.) 1955.

AND . . . Thorough investigation has again verified the safety and lack of toxicity of Roncovite. Please refer to the four articles in the August 13, 1955 issue of the J.A.M.A. (Volume 158, No. 15) which fully document this convincing evidence.

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RONCOVITE DROPS

Each 0.6 cc. (10 drops) provides: Cobalt chloride (Cobalt 9.9 mg.) Ferrous sulfate Bottles of 15 cc. with calibrated dropper

One tablet after each meal and at bedtime. Children I year or over, 0.6 cc. (10 drops); infants less than I year, 0.3 cc. (5 drops) once daily diluted with water, milk, fruit or vegetable juice.

LLOYD BROTHERS, INC., Cincinnati 3, Ohio Printed in U.S.A.

ample quantities of hydrochloric acid.

Simple achlorhydria is not accompanied by any demonstrable defect in digestion. Intestinal and pancreatic enzymes exist in adequate quantities and the digestion and assimilation of food proceed efficiently. The stomach may empty more rapidly than usual, but gastrointestinal motility is entirely normal in many patients with achlorhydria. The improvement in diarrhea and other digestive complaints, described occasionally after the oral administration of hydrochloric acid, is not attributable to the acid, but probably represents a psychotherapeutic response, for there is no conclusive proof that the very small amounts of hydrochloric acid prescribed therapeutically change the reaction of the gastric and intestinal contents significantly or consistently.

The symptoms listed by Dr. Rappaport, such as heartburn, epigastric distress, fullness, intolerance to spiced, fried, or fatty foods, nausea, burning of the tongue, bad breath, and constipation, are identical with the functional complaints described by many patients secreting adequate quantities of hydrochloric acid. These symptoms respond to the usual treatment of functional gastrointestinal disorders, without regard for the pH of the stomach or intestines. I agree also as to the uselessness of pancreatic extracts, pepsin, and similar medicaments in patients with achlorhydria.

JOSEPH B. KIRSNER, M.D.

Chicago

▶ TO THE EDITORS: Emphasis placed upon the general nonspecificity of symptoms due to gastric achlorhydria is of considerable practical interest. Achlorhydria, as a significant factor in functional disorders of the gastrointestinal tract, has not been of much assistance to me in the effective management of these problems.

The symptoms described by Dr. Rappaport as occasionally occurring either as a result of or in conjunction with achlorhydria usually can be controlled by a carefully managed dietary regimen that is supplemented by appropriate antispasmodic and sedative measures.

The symptoms often occur when variable amounts of gastric free hydrochloric acid are present. Very infrequently, when the above methods have failed, I have resorted to substitution therapy with diluted hydrochloric acid or its equivalent, hoping to afford relief but with little success.

Histamine achlorhydria may be an important diagnostic aid when attempting to obtain information relative to the potentiality of pernicious anemia or gastric cancer. In a large group of patients labeled as having gastritis, we found that 25% who had died during the period of review had cancer of the upper gastrointestinal tract and that, in this latter group, 50% had gastric achlorhydria. This would suggest the importance of periodic examinations of those patients in whom there is clinical suspicion of gastric cancer in the presence of

(Continued on page 238)

When Rectal Surgery is Contraindicated

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RECTAL MEDICONE

relieves painful anal lesions — ulcers abrasions — thrombosed hemorrhoids

■ In serious rectal involvement—where severe pain and discomfort are the patient's chief complaint¹— the insertion of Rectal Medicone affords dramatic relief, thus enabling the clinician to proceed with therapeutic measures for treatment of the basic condition.

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¹Bargen, J. A., and Jackman, R. J., Journal Lancet, 72:11, Nov., 1952.



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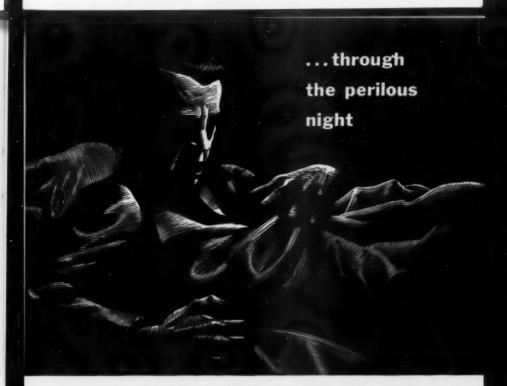
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1. Winsor, T., and Humphreys, P.: Angiology 3:1 (Feb.) 1952. 2. Plotz, M.: New York State J. Med. 52:2012 (Aug. 15) 1952. 3. Dailheu-Geoffroy, P.: L'Ouest-Médical, vol. 3 (July) 1950.

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achlorhydria. We have had 2 patients with proved benign gastric ulcers in the presence of histamine achlorhydria, and it is well recognized that gastric cancer does occur in association with relatively high quantities of free hydrochloric acid.

As is so frequently the case when dealing with functional disorders of the gastrointestinal tract, the relative merits of therapy must be judged in light of the effects of psychotherapy, and this factor may be of importance when making an evaluation of the symptomatology and treatment allegedly related to achlorhydria.

JOHN R. ROSS, M.D.

Boston

► TO THE EDITORS: Scientific proof of benefit from the use of hydrochloric acid in the patient with achlorhydria has never been adequate.

It is not practical to attempt to replace the amount of hydrochloric acid that a normal functioning stomach would secrete. Most of the literature on the subject depreciates the use of hydrochloric acid and places very little importance on symptoms associated with achlorhydria.

Through the years, physicians, particularly those in private practice, have used hydrochloric acid in dosage varying from a few drops to a few teaspoonfuls before and with meals. Proper evaluation of the benefits of hydrochloric acid is difficult.

Many elderly patients, particu-

larly those who have an otherwise unexplained diarrhea and achlorhydria, seem to benefit from the addition of the hydrochloric acid to their treatment regime. One possible explanation for the symptomatic improvement may be the effect of the acid on the stimulation of the rest of the digestive juices. Hydrochloric acid in the duodenum, even in small amounts, is a strong stimulus toward formation of secretion, which in turn stimulates other digestive secretions.

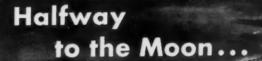
Hydrochloric acid is relatively harmless and in small dosage does not produce any side effect or toxic reaction. The use of hydrochloric acid symptomatically is justifiable. Its use does not provide even as much risk as the use of mild sedatives which are so commonly employed as adjuncts in the therapy of functional disturbances of the gastrointestinal tract.

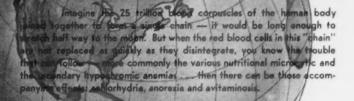
Certainly hydrochloric acid is not a curative drug, but neither is belladonna nor phenobarbital. It is difficult to understand the great difference of opinion—and, in some instances, condemnation—with regard to the use of hydrochloric acid, which is quite innocuous. The one real hazard lies in using acid too readily, and overlooking an important diagnosis while treating achlorhydria.

It must be remembered that achlorhydria is not a disease and one must be alert to the possibility of an important illness underlying or accompanying the absence of acid.

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MEDICAL FORUM

Treatment of Bladder Tumors* QUESTION: What is the preferred

therapy for tumors of the urinary bladder?

Comment invited from

B. S. ABESHOUSE, M.D.
C. A. FORT, JR., M.D.
ISADORE J. ZIMMERMAN, M.D.
T. H. SWEETSER, M.D.
ROBERT LICH, JR., M.D.

TO THE EDITORS: As indicated by the numerous cystoscopic and surgical procedures advocated by urologists, there is no unanimity of opinion regarding the correct treatment for the different types of bladder tumors. It is evident that the choice of therapy as well as the prognosis may be directly influgional may be directly influenced may be directly may be directly influenced may be directly may be

enced by such factors as the size, location, and grade of malignancy; the degree of infiltration of the bladder wall; the presence of ureteral obstruction; the amount of renal damage; the existence of metastases; and so on. However, intensive clinical studies such as reported by Drs. John L. Emmett and James R. Winterringer serve as important guideposts in crystallizing the proper therapeutic approach in this complex disease.

No hard and fast rule of therapy can be set up for the different types of bladder tumors. In our clinic, each individual is carefully evaluated and appropriate treatment is instituted. The general plan of

treatment is as follows:

• A large or small pedunculated or

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1. Cass, L. J., and Frederik, W. S.: Ann. New York Acad. Sc. 58:455 (July 15) 1954.

2. Shaftel, H. E.: J. Am. Geriatrics Soc. 1:549 (Aug.) 1953.

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sessile solitary papilloma or papillary carcinoma, grade I, is usually removed by transurethral resection with a McCarthy resectoscope or Bugbee electrode, depending on the size.

- Transurethral resection is done for multiple small papillomas located on the various portions of the bladder walls, exclusive of the vesical orifice. When the multiple tumors are situated around the vesical orifice, radium therapy, as by the Lewis-Friedman catheter technic, is utilized.
- · For large papillary carcinoma, grades II and III, the technic varies with the size, location, degree of infiltration of the bladder, and so on. When the tumor does not involve the ureteral orifice or trigone, partial cystectomy has been employed. In some instances, as when the tumor is close to the ureter, transplantation of the ureter has been necessary. When the tumor is situated close to or involves the trigone, the tumor is removed with either a loop electrode or knife blade and the base thoroughly electrocoagulated. In some of these cases, radon seeds have been implanted in and around the base of the tumor. In other cases, roentgenray therapy has been used as a supplementary measure to the operative removal of the tumor with fairly good results. Transurethral resection of this type bladder tumor, alone or combined with implantation of radon seeds, has not yielded very satisfactory results in our hands. The results of partial cystectomy alone have not been too gratifying as the percentage of five-

year survivals has not exceeded 20%. We are contemplating a wider use of the combined partial cystectomy and implantation of radon seeds as we believe our results are somewhat better with this method.

• For large infiltrating carcinoma, grade IV, we prefer cutaneous ureterostomy with plastic skin "teat" on each side (Abeshouse technic) to ureterosigmoidostomy. Total cystectomy is performed in some selected instances. In the past three months we have been employing the Brecker technic of transplanting the ureters to an isolated loop of ileum with satisfactory results.

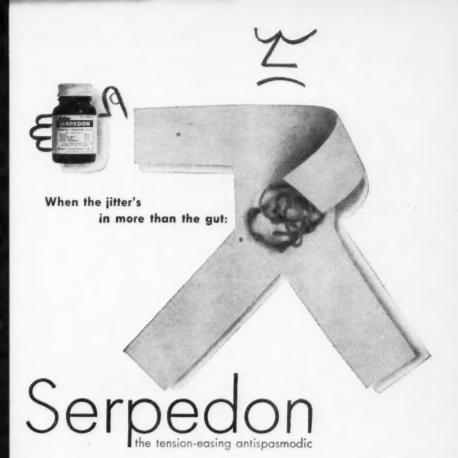
One cannot stress too much the importance of regular cystoscopic follow-up examinations, at least every three months.

B. S. ABESHOUSE, M.D.

Baltimore

TO THE EDITORS: We depend on Jewett and Strong's classification of bladder tumors according to infiltration rather than on Broder's according to malignancy for the choice of treatment. Any papillary tumor with no or moderate infiltration is preferably treated by transurethral resection and fulguration. This procedure is also frequently used as a palliative measure. If the tumor is very large or inaccessible to transurethral resection, but of minimal infiltration, suprapubic resection and fulguration is done. A tumor infiltrating the bladder muscle located laterally, anteriorly, or on the vault, we prefer to treat by partial cystectomy. Reimplan-

(Continued on page 246)



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tation of the ureter is practiced when necessary. Total cystectomy is done as a last resort. The indications are:

- Infiltration so deep or so large as to be palpated rectally
- Infeasibility of segmental resection
- Minimal or noninfiltrating tumors which fill the bladder
- Involvement of the bladder neck of the trigone

No radium has been used by us, and except for rare cases, we believe resection and thorough fulguration can effect as great a cure, if done correctly, without the severe cystic complications of radium. X-ray therapy has been reserved for recurrent tumors which follow cystectomy and hopeless cases not

amenable to any other therapy. We do not feel that x-ray therapy alone is justified to effect a cure as very few bladder tumors are significantly reactive to x-ray. Neither have we done regional node dissection because of the poor results observed and reported elsewhere. No pelvic exenterations have been done.

Regardless of the mode of therapy, all of our cases are followed routinely. After transurethral resection and resection, the area is refulgurated one month later, whether visible tumor is present or not, then checked by cystoscopy every three months for one year, then every six months for two years, and yearly thereafter.

C. A. FORT, JR., M.D. Jacksonville, Fla.

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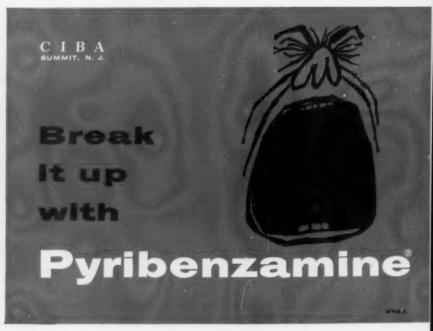
► TO THE EDITORS: Any evaluation of therapy for tumors of the urinary bladder in the light of our sorry record must declare a reorientation in the problem.

Generally, a tumor that has invaded the muscularis appreciably has already given birth within the bladder to daughter tumors, visible, palpable, or still microscopic. There is no limit to the field of extravesical lymphatic spread.

To improve the survival rate of the patient with carcinoma of the urinary bladder, we must seek the tumor before it has infiltrated the muscularis. To this end we need the cooperation of the profession and the public-spirited press to emphasize more widely that [1] the first sign of hematuria must be immediately and unfailingly traced to its cause and [2] since the first evidence of hematuria may herald an already advanced tumor, more bladders be observed cystoscopically whenever reasonable and too much easy reliance upon intravenous urograms alone be discouraged. The layman must understand that cystoscopy can be performed without hospitalization, loss of time from work, or more than topical anesthesia. Finally, more use should be made of the Papanicolaou stains in routine urologic studies.

The application of sound surgical principles to the complete extirpation of the localized tumor, leaving a socially acceptable patient, will always be good therapy.

(Continued on page 252)



248 MODERN MEDICINE, October 15, 1955

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-Krantz, J. C .:

Pennsylvania M. J., 58:383 (April) 1955.

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Wherever applicable, a rational operation would, therefore, consist of a full-thickness segmental resection or hemicystectomy with reimplantation of the ureter and wide resection in all planes. Any procedure offering the patient less must be condemned.

!SADORE J. ZIMMERMAN, M.D. Manchester, N. H.

TO THE EDITORS: Ten years ago, in a paper on cystectomy for carcinoma of the bladder. I recorded my feeling that the objective of the treatment of tumors of the bladder should be the patient's greatest comfort for the longest time. I felt at that time that cystectomy had a definite role and was surgically feasible, although not as widely applicable as some authorities claimed. I felt that segmental resection of the bladder and transurethral excision and fulguration of the tumor also had a wide field of usefulness and that radiation therapy was useful but not curative of itself.

In the last ten years, I have lost all enthusiasm for cystectomy, not only because of disappointment as to its adequacy, but also because of difficulties with electrolyte balance and pyelonephritis after ureteral transplantation. Even the most recent new technics for diversion of the urine are unsatisfactory in my opinion. I do feel that there may be a limited field for segmental resection of the bladder when the tumor is in the anterior or superior wall far from the ureters, difficult of access by transurethral means and not deeply infiltrating.

I feel that transurethral excision with the resectoscope and coagulation of the tumor base, with periodic cystoscopic observation thereafter, furnish the patient his best outlook for the longest possible period of life and comfort and his greatest chance of cure. To be of highest value, the resectoscope must be used skillfully, but also boldly, with the goal of accomplishing complete wide excision of the growth as well as coagulation of the base and margins. Adequate catheter drainage and watchful postoperative care will reduce the danger of extravasation. Periodic cystoscopic observations with appropriate transurethral procedures will often extend the patient's life and comfort far beyond one's expectation. Radium and x-ray, while of themselves furnishing only palliation, do give extra insurance of good surgical results in some circumstances.

T. H. SWEETSER, M.D. Minneapolis

TO THE EDITORS: Therapeutically, bladder tumors must be evaluated according to size, location, infiltration, and the potentiality of extension in both space and time. Time is an important consideration in bladder tumors since it is time that so often defeats our most effective treatment efforts; the successfully eradicated tumor may reappear elsewhere in the bladder in weeks, months, or years. Thus, the immediate mechanical problem is but a facet of vesical tumor therapy which demands a lifelong observation with positive unfaltering

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MEDICAL FORUM

steps whenever a recurrence is manifest.

We have elected to classify bladder tumors into 4 groups: [1] papillary tumors; [2] discrete moderately infiltrating larger papillary or sessile tumors, grades 2 or 3; [3] tumors localized in the bladder dome; and [4] massively extensive infiltrating vesical tumors, grades 3 or 4.

Tumors in the first group are removed with the resectoscope loop, cutting well beyond the base of the lesion both in the linear and depth dimensions. At the conclusion of the resection, tissue is removed from the edges of the resected crater and from its depths. These tissues are so marked for histologic study to demonstrate the effectiveness of our efforts at total excision. If tu-

mor tissue exists in these fragments, another resection is scheduled within the week to extend the limits of our resection. The tissue fragments obtained are again examined to ascertain whether the limits of the tumor have been exceeded. If accomplished, we consider our immediate efforts successful and our problem remains to follow this patient. Any recurrence is immediately and extensively excised.

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is startling. However, the effectiveness of estrogen is inversely proportional to the tumor grade.

In localized tumors of the bladder dome, wide excision with primary vesical closure is practiced. The results have been moderately satisfactory.

In extensive grade 3 and 4 tumors we have elected to transplant the ureters to the sigmoid without cystectomy. The merits of this approach are symptomatic relief with possibly some extension of life. Cystectomy, radical or conservative, has not afforded enough assistance to warrant the increased operative risk. Hence, the use of curative cystectomy has been discontinued.

ROBERT LICH, JR., M.D.

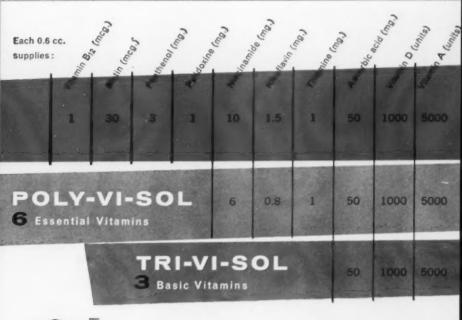
Louisville

Node Excision with Radical Mastectomy*

QUESTION: Should the internal mammary chain of nodes be removed during radical mastectomy for cancer of the breast?

Comment invited from
IAN MACDONALD, M.D.
JEROME A. URBAN, M.D.
MEARL F. STANTON, M.D.
BEN H. NEIMAN, M.D.
WAYNE C. BARTLETT, M.D.
J. J. WILD, M.D.

► TO THE EDITORS: Mammary carcinoma manifests extreme variations in biologic behavior, ranging from slow-growing dilatory neoplasms that remain localized to the breast for three to five years to lesions which disseminate with explo*Modern Medicine, July 15, 1955, p. 99.





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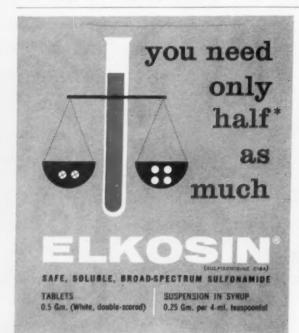
sive rapidity, sometimes causing the death of the patient within months after the first symptom. On the basis of data previously published, augmented by current additional studies, I am convinced that carcinoma of the breast is roughly divisible into three biologic groups:

1] Neoplasms of slow growth which are late to metastasize and in which simple mastectomy will produce clinical cure at any time up to three years after the recognized onset of the process. This accounts for about 20% of cases.

2] Lesions with generalized dissemination long before the local neoplasm becomes large enough for clinical recognition. This is the fraction of mammary carcinoma which is incurable by any means of treatment currently available and accounts for about 55% of cases.

3] Neoplasms which develop in a rather orderly sequence of progression from first appearance as local tumors to involvement of regional nodes and thence to the phase of remote metastasis. About 25% of women are thus affected.

Any extension of radical surgery beyond conventional radical mastectomy is of no benefit to groups 1 and 2; their fate is predetermined. The problem then is whether such extended surgery as resection of the internal mammary chain of nodes, as advocated by Dr. Irving M. Ariel, or supraclavicular dissections, as recently revived by some centers in this country and abroad, will contribute to an in-

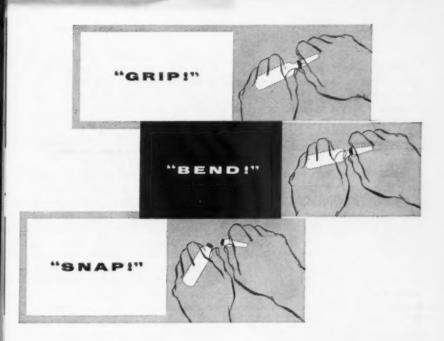


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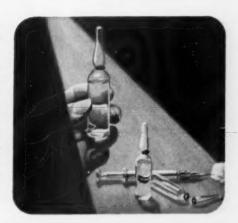
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creased cure rate for the women in group 3. It is my conviction that such extensions of dissection beyond the area of genuine regional nodes, that is, the axillary nodal areas, may be of possible palliative value but will not contribute to genuine improvement in end results.

Most surgeons of experience accept metastatic involvement of a single supraclavicular node as evidence of incurability and inoperability. The reason, of course, is that the supraclavicular nodes are not genuine regional nodes and extension of the disease above the clavicle is synonymous with more remote metastatic involvement. This concept has again been confirmed in a recent report by Dahl-Iversen and Sorensen, in which they describe their failure to improve end results by extending conventional radical mastectomy to include a concomitant supraclavicular node dissection. Even the involvement of apical axillary nodes is of ominous import, because less than 20% of such patients survive five years after radical mastectomy.

With this sort of knowledge concerning the natural history of mammary carcinoma, it seems obvious that involvement of a single node in the internal mammary chain is an indication of disseminated metastasis. It would seem proper to regard Dr. Ariel's project as a commendable venture in clinical research, the value of which cannot be assessed properly until a significant series of patients has been observed for ten years.

IAN MACDONALD, M.D.

Los Angeles

TO THE EDITORS: The internal mammary nodes should be removed at the time of radical mastectomy for primary operable breast cancer, particularly in stage I and early stage II cases, and especially when the primary tumor presents in the inner half or central portion of the breast, since primary lesions in these areas metastasize frequently and early to these nodes.

The axillary nodes and the internal mammary chain of nodes constitute the two main primary lymphatic drainage depots of the breast. Other less frequently involved avenues of primary spread are the intercostal lymphatics and primary hematogenous routes. Either the axillary or the internal mammary nodes may be involved with metastases independently or together. About 12% of our patients with negative axillary nodes had metastatic internal mammary nodes.

Since 1951, we have applied an operative technic of radical mastectomy with en bloc in continuity resection of the internal mammary nodes to more than 200 patients without significant increase in morbidity and with only 1 postoperative mortality. Several recent modifications of this technic evince the widespread interest in this surgical extension.

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26 Christopher Street New York 14, N. Y. internal mammary chain are now free of disease four years postoperatively, two without benefit of x-ray therapy. Only 3 cases in the entire series of more than 200 had local recurrence in the absence of systemic spread.

We believe that this more adequate surgical removal of primary operable breast cancer will result in an increased survival rate if undue postoperative morbidity and mortality are avoided. It is essential that this more difficult procedure be done only by well-trained personnel under ideal conditions, using careful technic with excellent anesthesia and adequate postoperative care.

JEROME A. URBAN, M.D. New York City

► TO THE EDITORS: At best, the classical radical mastectomy of Halsted and Meyer can offer the chance of living five years to only about one-half of the patients with clinically operable breast cancer. There is no doubt that this disappointing outlook is due, in part, to the spread of cancer through the internal mammary chain. It is now clearly evident that 30% or more of all patients with "operable" breast cancer have seedling deposits in these subcostal nodes at the time of operation.

Tumors from all quadrants of the breast metastasize to internal mammary nodes. Tumors arising about the nipple and in the mesial quadrants of the breast metastasize to internal mammary nodes with the same frequency that they do to axillary nodes. In roughly 10% of mesial tumors, malignant implants occur in the subcostal lymphatic chain before axillary involvement occurs. These observations indicate the importance of this long-neglected primary pathway of mammary cancer spread.

Biopsy of the internal mammary nodes before radical mastectomy can indicate the extent of metastatic spread, and, when positive, biopsy can point up the futility of the orthodox radical mastectomy in individual cases. The question of whether facts concerning internal mammary node involvement indicate en bloc excision of these nodes as a therapeutic benefit to the patient is another matter. Axillary lymphatic drainage is an efficient multiple filter which is accessible to the surgeon in its entirety. On the other hand, the internal mammary nodes are a relatively poor filter and, when seeded with cancer cells, a direct and more rapid spread from these nodes to many surgically inaccessible loci can be expected.

The problem can be stated simply. Will this subcostal lymphatic filter arrest further dissemination for a sufficient length of time to permit surgical intervention? The length of time is not known and may well vary with the individual host and the individual cancer. Certainly we can expect only a small number of patients with internal mammary metastases to be freed of their disease by this surgical maneuver. Whether the incidence is great enough to offset the

(Continued on page 264)



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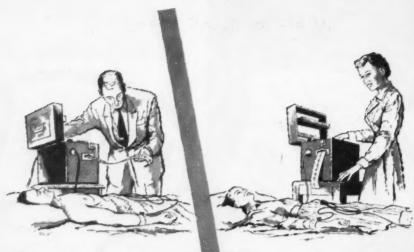
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Patent Applied For.

problems of surgical morbidity and mortality associated with the en bloc excision of internal mammary nodes is a question which cannot be answered at this time.

Extending the field of the radical mastectomy is a procedure commendable only because it is a courageous attempt to determine the answer to this question by observation, an effort which no amount of speculation can accomplish. We must wait for a long-term analysis of many patients treated in this manner before the efficacy of this procedure can be justly determined.

MEARL F. STANTON, M.D.

St. Louis

TO THE EDITORS: Despite Mc-Whirter's advocation of simple mastectomy followed by radiation therapy for cancer of the breast, the overwhelming consensus of opinion is that nothing less than the most radical resection of the breast which can be devised will give a good five- or ten-year survival rate. Monroe has shown that the number of lymph nodes removed by radical mastectomy is in direct proportion to the five-year survival rate. When the removed specimens contained an average of 15 and 28.2 lymph nodes only 50 and 66% of the patients were alive at the end of five years. By contrast, when specimens contained an average of 28.8, 35.8, 38, and 46.3 lymph nodes, all patients were alive at the end of five vears.

The importance of internal mammary lymph nodes in carcinoma of the breast was recognized by Hand-

ley in 1927, but not until recent years did attempts at resection produce favorable surgical results. In a recent paper by Glover, a report of 8 cases was presented. He concluded that internal mammary node dissection is useful primarily as a diagnostic and prognostic index preliminary to radical mastectomy for central and medial quadrant carcinomas. It seemed to him that most carcinomas of the breast demonstrating involved internal mammary lymph nodes should be considered inoperable. It seemed unlikely that either block resection or local excision of the nodes will be curative if these nodes contain tumor.

Further studies of general morbidity, mortality, and survival rates of larger numbers of cases in which the internal mammary chain has been resected must be recorded to ascertain the value of the procedure.

BEN H. NEIMAN, M.D.

Berwyn, Ill.

TO THE EDITORS: I am sure that in a certain percentage of patients, particularly those with medially located malignancy, the spread is directly into the internal mammary chain and in some instances I believe that these nodes should be excised. However, I am of the further opinion that, in a great percentage of instances in which such a procedure might be carried out, there would be very little actual improvement statistically in the prolongation of life and/or evidence of recurrence. In many instances,







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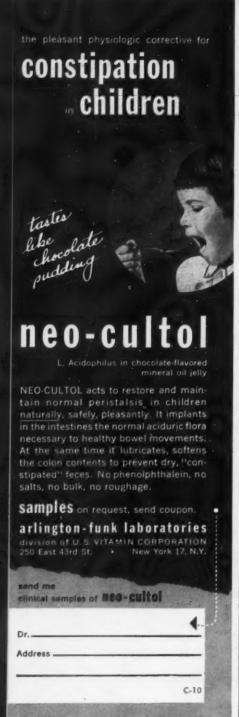
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in view of the increased severity of such an operation as well as the increase in morbidity, it is rather doubtful, in my mind, that one would be justified in making such a dissection a routine procedure.

We have seen the pendulum swing with regard to the proper surgical procedure for carcinoma of the breast and at the present time we personally are inclined to feel that the type of procedure recommended by Halsted and Handley probably is preferable in most instances to any other operation. We have not been able to string along with the Edinburgh group, who recommend only a simple mastectomy and radiation. Regardless of the method one uses, there are going to be a great many disappointing outcomes.

WAYNE C. BARTLETT, M.D. Wichita

▶ TO THE EDITORS: Why has the progress in treatment of carcinoma of the breast been painfully slow? The answer to this may come from many sources. Chief of these, however, must be more exact knowledge of its mode of spread. Certainly cancer spreads, often very early, by the lymphatics, but I am convinced that there must also be an early hematogenous spread, judging by the character and distribution of metastases of even so-called early lesions.

On this premise, addition of internal mammary gland chain resection to present surgery would add only a small number to the fiveyear survival group. However, this additional survival certainly justifies the procedure. Unfortunately, internal mammary resection cannot be done in smaller communities because of lack of anesthesiologists trained in intrathoracic work.

The basic work in mammary cancer still rests with much earlier diagnosis, more exact studies in mode of spread, and a systemically administered preparation able to selectively kill tumor cells in their various locations in the body.

Resection of the internal mammary chain, in my opinion, definitely is not the solution to breast cancer and will eventually be replaced by preparations, given systemically, that can kill tumor cells anywhere in the body.

J. J. WILD, M.D.

Sheridan, Wyo.

Books Received

FEELING NO PAIN by Bill O'Malley. 88 pp. of cartoons. Prentice-Hall, Inc., Englewood Cliffs, N.J., 1955. \$1.95 THE QUANTITATIVE ANALYSIS OF DRUGS by D.

THE QUANTITATIVE ANALYSIS OF DRUGS by D. C. Garratt. 670 pp., 2d ed., rev. Philosophical Library, Inc., New York City, 1955.

\$17.50
ION EXCHANGE AND ADSORPTION AGENTS IN MEDICINE by Gustav J. Martin. 333 pp., ill. Little, Brown & Co., Boston, 1955. \$7.50
DIGEST OF ONE-HUNDRED SELECTED HEALTH AND INSURANCE PLANS UNDER COLLECTIVE BARGAINING, 1954 by United States Department of Labor. U. S. Government Printing Office, Washington 25, D.C., 1955. \$1



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Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-297

THE CLUE

ATTENDING M.D: We have a fever of unknown origin for you to see today. I don't know what the entire diagnosis is, but we do have some positive findings from the bacteriology laboratory.

VISITING M.D: Yet you call it a fever of unknown origin? Usually, positive bacteriology settles the matter. What is the history?

ATTENDING M.D: The patient is a 31-year-old hotel porter who had sudden fever, sweats, malaise, and chills about two weeks ago. There were no localized findings at first, but lately a productive cough has appeared. The patient has been in the hospital five days, and his temperature rises each afternoon to around 102° F. orally. He continued to work for the first few days of the illness, but his strength rapidly diminished, and at the present time he appears critically ill.

VISITING M.D: Is that all the history?

ATTENDING M.D: The usual negatives such as no raw milk; no history of tuberculosis or exposure to it; no parrots, squirrels, or rabbits; and no sore throat, diarrhea, headache, or meningis-

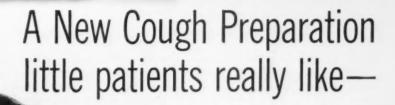


mus. He has never been out of this part of the country. Two things of interest are the existence of several scars over the forearms and an attack of thrombophlebitis in the left arm last year.

PART II

VISITING M.D: You're testing me now. That sounds like a "mainliner." Is he an addict?

ATTENDING M.D: Yes. Although he denied it at first, I finally got him to admit to being a heroin addict. He isn't exactly the salt-of-the-earth type, but I don't think he is too strongly addicted. At least he manages to support himself and his wife, and he be-



(and its high gastric tolerance repays their confidence!)

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came quite cooperative once we established his addiction. However, there is no additional history.

VISITING M.D: You mentioned a cough. Before going on with the physical findings, tell me about

the chest film report.

ATTENDING M.D: It was negative.
The lungs were clear and the heart was normal in size. That was on admission. We made another chest roentgenogram yesterday, and the radiologist suspects multiple small pulmonary infarcts or patchy pneumonitis.

VISITING M.D: Before I forget, just when did he last use heroin?

ATTENDING M.D: He and some friends had a little party the week end before the fever began. They all took heroin intravenously. Here is his room. (They enter and examine the patient.)

visiting M.D: I noted the scars over the forearms and antecubital spaces but could find no acute or subsiding phlebitis. I saw no skin abscesses, either. In fact, except for the fever and ill appearance, there didn't seem to be much. No lymphadenopathy or hepatosplenomegaly. No heart murmurs. I couldn't hear any rales or percuss any dullness in the lungs. The neck was supple, and the Kernig sign was negative.

ATTENDING M.D: That's the trouble.

The chest film is our first evidence of anything. Here are the laboratory reports.

visiting M.D. (Thumbing through the chart) Let's see. Hemoglobin, 11 gm.; leukocyte count, 16,800 with 88% polymorphonuclear neutrophil leukocytes; and no eosinophilia. Urinalysis shows a trace of albumin and a few white and red cells but no casts. The Kahn, heterophil, and cold agglutination tests are negative, and the sputum on admission showed no pathogens on culture. Have you repeated that?

ATTENDING M.D: A second sputum was sent to the laboratory today. You will also notice a negative sputum concentrate smear for acid-fast bacilli, and the tuberculin skin test was negative as were the histoplasmin and coccidioidin. Should we make serologic tests for histoplasmosis?

PART III

VISITING M.D: First tell me what the positive bacteriology was. Oh, here it is. Hemolytic Staphylococcus aureus coagulase positive cultured from the blood on 3 successive occasions. I didn't hear any heart murmurs. Let's listen again.

ATTENDING M.D: (Back in the corridor) Nothing to hear, is there? That's what I meant about the whole diagnosis being obscure. No thrombophlebitis, no valvular lesions, and no abscesses. Do you think it's staphylococcic

pneumonia?

VISITING M.D: Well, he probably has that now, but this illness didn't start that way. He was febrile for over a week before cough started, and the first chest film was clear. Why isn't this acute endocarditis?

ATTENDING M.D.: But why should he

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"'Ordinary boiling does not kill certain viruses. I have two Pelton sterilizers in my offices that have been used for 35 years and they are still going strong."

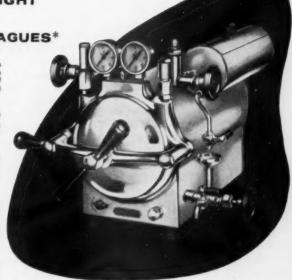
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get that? Isn't acute bacterial endocarditis usually a terminal event in a patient seriously ill from some other cause?

VISITING M.D: That's right. Yet this illness has been going on for two weeks, and he still has no heart murmur. I'm confused.

ATTENDING M.D: Do you think heroin addiction has anything to do with it?

VISITING M.D: Maybe. I suppose his sterile technic is not the best if he bothers at all.

ATTENDING M.D: That's for sure. No needle or syringe boiling or skin cleansing. They just pass it around the group.

VISITING M.D.: I was hoping you were trying to trap me with malaria. I know that mainliners can contract malaria, but these blood cultures can't be ignored. I wouldn't even bother to look for malaria unless antibiotics fail to help.

ATTENDING M.D: We have tested the organism, but it is resistant to all available antibiotics. We have been giving the patient massive doses of penicillin and streptomycin.

VISITING M.D: If the temperature curve isn't improved, you will have to try other drugs, alone and in combination. I don't know what else to suggest. You might have surgical consultation to search for hidden abscess and watch for pylephlebitis. If it weren't for the blood cultures, we could consider malaria, amebic liver abscess, disseminated tuberculosis, or even lymphoma in the diagnosis.

PART IV

ATTENDING M.D: (Two weeks later)
The patient with septicemia died last night of a ruptured mycotic cerebral aneurysm. Would you like to make a guess at the diagnosis?

VISITING M.D: No. You tell me.

ATTENDING M.D: The infection was localized on the tricuspid valvea tricuspid endocarditis. Small abscesses were scattered throughout the lung. The pathologist told me that several instances of staphylococcal tricuspid endocarditis in heroin mainliners have been described; preceding valvular disease did not exist in those cases. Also, our patient's valve was structurally normal except for the recent damage of the infection. Extensive friable vegetations were noted. The lack of a murmur in this type of endocarditis is characteristic.



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Medical Crossword

Solution on page 304

HORIZONTAL

- 1. Human
- 7. Corpulent
- -mycosis; eye disease
- 13. Second stage of Distoma
- 14. One that loses
- 15. ---- disease; sublingual fibroma
- -phobia: morbid aversion to home surroundings 17. Prefix meaning life
- 19. Ardent affection
- 20. Reaction of degeneration (abbr.)
- 21. A deed
- 22. Something at the very bottom of human nature
- 23. From (Latin preposition)
- 25. Visual acuity (abbr.)
- 27. The palm
- 28. Vascular chorionic tuft
- 29. Tincture (abbr.)
- 31. Antitoxic unit (German abbr.)
- 32. Influence upon nervous system by magnetic agents

- 12 13 14 15 16 19 22 20 25 29 32 33 34 35 36 37 41 43 38 40 44 45 47 48 50 49
- 34. Wm. Miller —; English surgeon, 1834-1902 36. Symbol for
- arsenic 38. Tampon
- 41. Meadow
- 42. Animal skin
- 44. Insipid
- 46. That which arrests motion
- test for 47. . performing the Takata-Ara test
- 48. Fragrance
- 49. Encounters
- 50. ----gin: antipyrine resorcylate

VERTICAL

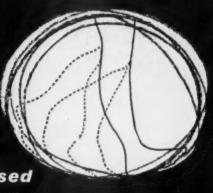
- 1. Pain
 - 2. Framework of a red blood corpuscle

- 3. Fragrant restorative
- 4. Prefix denoting relationship to the ileum
- 5. Heart
- 6. Science of smell
- 7. Ulcerative stomatitis of sheep
- 8. Rutaceous tree of India
- 9. The taro
- 10. Apparatus used for sifting
- 11. Facilitates
- 17. Sand bath
- (abbr.)
- 18. Prefix meaning the ear
- 23. Insect
- 25. Passage
- 24. Upper part of the gums of a horse

- 26. Alcoholic beverage
- 30. Methyl-phenol
- 32. Narcotic
- 33. French physician, 1797-1832
- 34. Oil (Latin abbr.)
- 35. Diphenyl-arsine chloride (abbr.)
- 36. --eon: Greek writer accredited with the discovery of the
- optic nerve 37. Pilfer
- 39. Matter congealed or molded
- 40. Intertwining of
- 42. Minute orifice
- 43. God of love 45. The letter "S"
- 46. Distant

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preliminary findings, based on the measuring of pituitary ACTH suppression potency of various corticoids, appear to indicate that STERANE is 20% more potent than the cortisone analog, prednisone

simplied in white scored simplified in the familiar Pfiger over shape.

> 1 Forsham, P. H., et al. Paper presented at First Internal, Conf. on Prednisone and Prednisolons New York, N. Y., May 31-June 1, 1955.

> > thrand of prednisosopp

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Transaminase after Infarct

Myocardial infarction due to ligation of coronary arteries in dogs produces an increase in the serum glutamic oxalacetic transaminase activity within six hours after the initial injury. The degree and duration of the rise in enzyme activity are in direct proportion to the extent of myocardial necrosis found post mortem, report Dr. Irwin Nydick and associates of the Sloan-Kettering Institute and the Memorial Center for Cancer and Allied Diseases, New York City. Elevated enzyme activity is apparently produced by leakage of enzyme through severely damaged cell membrane; levels are unaltered by myocardial ischemia without infarction.

Circulation 12:161-168, 1955.

Eye Muscle Potentials

Electromyography provides data which aid analysis of normal or impaired ocular motility. Drs. Goodwin M. Breinin and Joseph Moldaver of New York University and Veterans Administration Hospital, New York City, report that the motor unit of extraocular muscle is simpler, of shorter duration, and can fire at greater frequency than that of skeletal muscle. There is no position of innervational rest. Divergence is associated

with active innervation of the lateral recti. With denervation or paralysis resulting from compression of a nerve, no volitional potentials are obtainable. Upper motor neuron lesions may reveal simultaneous activity of antagonists, synchrony of firing, or disturbances of reciprocity.

Arch. Ophth. 54:200-210, 1955.

Atrophic Muscle Potassium

Measurement of potassium turnover indicates that low potassium concentration in dystrophic muscles is probably a consequence of the disease rather than a causative factor. Patients with muscular dystrophy given oral doses of K42 actually have a smaller exchange of radioactive potassium than do healthy patients, but the index of potassium turnover within the muscle is not depressed, report Dr. G. M. Shy and associates of the National Institutes of Health, Bethesda. Md. Apparently the decreased total potassium exchange is due to the relative deficiency in total body potassium rather than to an inability of the muscle to take up the ion. After the disease has started, the low potassium concentration may aggravate the disturbance of the muscle metabolism. J. Appl. Physiol. 8:33-36, 1955.

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preliminary findings, 1 based on the measuring of pituitary ACTH suppression potency of various corticoids, appear to indicate that STERANE is 20% more potent than the cortisone analog, prednisone



1. Forsham, P. H., et al.: Paper presented at First Internat. Conf. on Prednisone and Prednisolone, New York, N. Y., May 31-June 1, 1955.

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Cancer Cell Propagation

Epidermoid carcinoma (strain KB) may be successfully grown by tissue culture methods in a medium containing 13 amino acids, 7 vitamins, glucose, salts, and 10% human serum. Dr. Harry Eagle of the National Institutes of Health, Bethesda, Md., reports that use of the medium, which has previously been used for propagation of HeLa carcinoma cells, permits isolation and propagation of strain KB cells without intervening cultivation in a plasma clot. Approximately three weeks after the initial planting the rate of growth stabilizes at a generation time in the logarithmic phase of growth of approximately thirty hours.

Proc. Soc. Exper. Biol. & Med. 89:362-364, 1955.

Experimental Pneumonia

Intratracheal injection of 5 cc. of autologous gastric juice produces a variety of changes, often fatal, in the rabbit lung. Severe reactions, including acute pulmonary edema, acute hemorrhagic pneumonia, and chronic inflammatory and reparative lesions, are usually apparent after injection of either gastric juice or hydrochloric acid, reports Dr. Thomas J. Moran of the University of Pittsburgh. Injection of pepsin alone causes little response; steapsin injection produces pneumonia in some animals. Atypical bronchiolar regeneration and fibrosis in surviving animals may superficially resemble a neoplasm.

Arch. Path. 60:122-129, 1955.

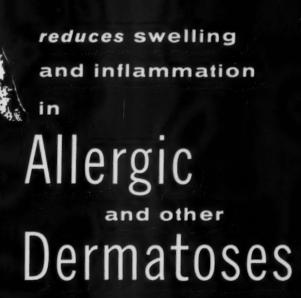
Increased Vaccine Efficacy

The antigenicity of bacterial preparations may be increased by disruption of the organisms. Dr. Charles C. Shepard and associates of the Rocky Mountain Laboratory, Hamilton, Mont., report that cultures of Bacterium tularense broken up by treatment with ether or by mechanical agitation have greater vaccine efficacy than do whole cell preparations. Fractionation and electron microscopic examination of the cellular elements after disruption demonstrate that increased antigenicity is directly correlated with the amount of free cell wall in the preparations. Fractions were tested as vaccines against the disease in mice and as precipitating antigens against constant amounts of serum prepared by injecting washed organisms into rabbits.

J. Immunol. 75:7-14, 1955.



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Fornham P H et al. Paper presented af first Internat. Conf. on Prednisone and Prednisolone. New York, N. Y. May 31 June 1, 1955.

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short REPORTS

Improvement in Emphysema

Patients with intractable pulmonary emphysema seem to be benefited by radiation thyroidectomy. Administration of radioactive iodine lowers the basal metabolic oxygen requirements so that a relatively larger amount of tissue oxygen is available for other purposes, explain Dr. Allan Hurst and associates of the General Rose and St. Anthony hospitals and the University of Colorado, Denver. Stress on the right heart and pulmonary vascular bed is also diminished. Without producing radiation thyroiditis, two 20-millicurie doses of radioactive iodine given two months apart in conjunction with conventional treatment induce gain in appetite and weight, increased exercise tolerance, and a sense of well-being.

Ann. Allergy 13:393-397, 1955.

Lymphatic Visualization

Preoperative injections of vital dyes may facilitate visualization and excision of lymph nodes which drain areas of neoplastic involvement. Doses of 2 cc. of 4% Evans blue dye injected through the anoscope into the submucosa at a level between the pectinate line and lowest valve of Houston produce no adverse effects, report Drs. Lester

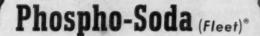
J. Blatt and John J. Cincotti of the Veterans Administration Hospital, New York City. Twelve to seventy-two hours after injection, regional nodes up to the origin of the inferior mesenteric artery and paraaortic nodes are stained in some patients. Failure of some nodes to stain may be due to an insufficient depot, diminished volume flow, or lymphatic obstruction.

Surgery 38:373-383, 1955.

Diagnosis of Scalp Diseases

Bacteriologic culture of scalp scrapings from patients with scaling dermatoses may differentiate seborrheic dermatitis from psoriasis of the scalp. Of 71 cultures on acid wort agar medium from patients with seborrheic dermatitis, showed Micrococcus epidermidis. Pityrosporum ovale-like organisms, or undifferentiated yeast-like forms, report Drs. Paul G. Reque and Joseph E. Terry of the Lloyd Noland Foundation Hospital, Birmingham. In contrast, M. epidermidis was isolated from only 1 of 18 cultures from patients with psoriasis, while the remaining cultures grew no organisms. Positive cultures, showing growth within four weeks, suggest that the condition is seborrheic rather than psoriatic.

South. M. J. 48:834-837, 1955.



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Osteogenesis with Grafts

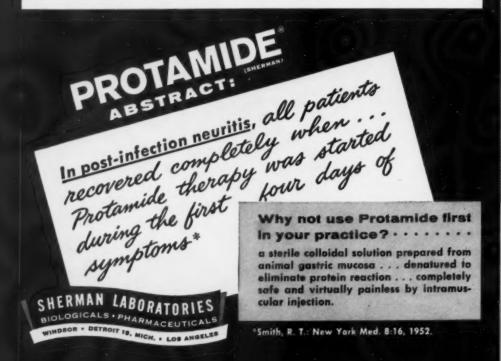
The proliferative capacity of autogenous periosteal grafts in rabbits varies considerably depending on the graft site. Drs. Jonathan Cohen of the Children's Medical Center, Boston, and Pierre LaCroix of the University of Louvain, Belgium, find that periosteal grafts placed in situ on the tibia are more successful than those placed within the subcapsular space of the kidney or the anterior chamber of the eye. Cartilaginous proliferation sometimes occurs within areas of greatest osteogenesis. The chemical stimulus of the recipient bed, rather than mechanical or circulatory factors, probably determines osteogenetic potency.

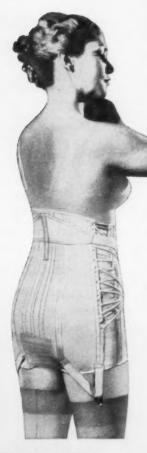
J. Bone & Joint Surg. 37-A:717-730, 1955.

Etiology of Pancreatitis

Acute hemorrhagic pancreatitis is induced in dogs by intraductal injections of dilute staphylococcal toxin. Dilutions of 1:100 may induce massive coagulation necrosis of the pancreas; 1:10 dilutions are routinely fatal within twenty-four hours. Drs. Alan Thal and J. E. Molestina of the University of Minnesota, Minneapolis, report that the toxin diffuses through the duct wall without producing an anatomic breach. Heat inactivation or antitoxin neutralization prevents the necrotizing effects. The toxin causes severe segmental spasm of the pancreatic veins and arteries, resulting in complete local cessation of circulation.

Arch. Path. 60:212-220, 1955.





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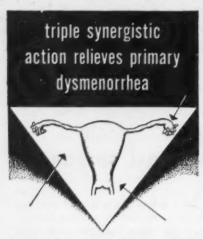
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Alcohol Effect on Stomach

The increased secretory activity in the stomach of dogs after ingestion of alcohol appears to be primarily due to stimulation of the gastrin phase of gastric secretion. Dr. Edward R. Woodward and associates of the University of California at Los Angeles find that of the acid gastric juice produced in response to ingested alcohol about two-thirds results from stimulation of the antral gastrin mechanism and onethird from intestinal stimulation. Dilute alcohol applied directly to the mucosa of the body and fundus of the stomach usually does not stimulate secretory activity.

Proc. Soc. Exper. Biol. & Med. 89:428-431, 1955.

Radiation Leukemogenesis

Radiotherapy of the spinal column for the relief of ankylosing spondylitis may induce aplastic anemia and myeloid leukemia. Dr. H. van Swaay of the Deaconess Hospital, Bronovo, The Hague, Netherlands, reports that aplastic anemia developed in 2 and myeloid leukemia in 5 individuals within two and one-half months to six years after exposure of the spine to doses of 900 to 5,950 r. Since ankylosing spondylitis is not associated with leukemia in patients who have not received radiotherapy, a direct etiologic relationship between radiotherapy and blood dyscrasia seems probable. Such a relationship is supported by statistics indicating an unusually high incidence of leukemia among radiologists among Japanese exposed to atomic

Lancet 269:225-227, 1955.

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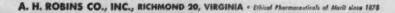
EXEMPT NARCOTIC



REFERENCES:

1. Bluncherd, R. and Ford, R. A., Effective Antibusive Agent in the Treatment of Cough in Childhood, Jeonal-Lenot, 74.443, Nov., 1954. 2. Con., L. and Frederik, W., Comparetire Clinical Effectiveness of Cough Medication, Amer. Pract. and Dig. of Treat, Vol. 2, p. 845, Colobbe, 1951.

*Reprints available upon request.



Antifungal Agent

Endomycin seems to inhibit growth of various pathogenic fungi in vitro. Drs. Harold O. Perry and John A. Ulrich of the Mayo Clinic and Foundation, Rochester, Minn., find that the antifungal effect of endomycin against Candida albicans and Candida tropicalis is increased when the pH of the suspending medium is alkaline. Tests of 100 strains of C. albicans show wide variations in the sensitivity of the organisms. Tolerance of C. albicans to endomycin increased from 6 to 45 times previous levels in strains cultured on noninhibitory concentrations of the antibiotic.

J. Invest. Dermat. 24:623-631, 1955.

Measurement of Blood Flow

Peripheral circulation of the lower extremities may be evaluated by intravenous injection of serum albumin tagged with radioactive iodine. In healthy persons the peak of radioactivity is reached within four minutes after injection of 100 to 130 microcuries of the tagged albumin into an antecubital vein, report Dr. Joseph M. Levenson and associates of the Cook County Hospital and Loyola University, Chicago. The peak of radioactivity in limbs with deficient arterial circulation is about half of that in healthy limbs and is reached within two minutes of injection. Lumbar sympathetic block or surgical ganglionectomy causes vasodilation demonstrated by an almost immediate rise in radioactivity.

Arch. Surg. 71:167-170, 1955.

Mortality after Infarction

Circulatory and metabolic responses of elderly patients after acute myocardial infarction may indicate the probability of survival or impending death. Dr. Robert A. Bruce and associates of the University of Washington, Seattle, find that dving patients have persistently low diastolic, systolic, and venous pressures, decreases in serum sodium concentrations with renal conservation of sodium, and expansion of volume distribution of sodium thiosulfate. In contrast, surviving patients have higher mean venous pressures and circulation times, higher initial volume distribution of sodium thiosulfate, greater weight loss, and earlier recovery of negative potassium and nitrogen balances.

Circulation 12:207-214, 1955.

Treatment of Senility

Metrazol therapy is of definite value in reducing the nursing difficulties inherent in the care of senile persons. Dr. William B. Suter of the Allegheny County Institution District Hospital, Mayview, Pa., reports that 12 of 15 patients treated became quieter, pleasanter, and less quarrelsome within four to five weeks after therapy was begun. Mental confusion and disorientation are usually not decreased but improvement may take place in some individuals. Therapeutic effect may be obtained without provoking epileptic seizures by oral administration of two 11/2-gr. tablets four times a day.

Dis. Nerv. System 16:211-217, 1955.



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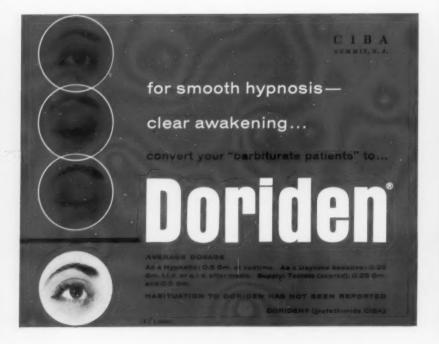
Tablets, 25 mg. (scored) Elixir, 25 mg. per 4 ml. Multiple-dose Vials, 10 ml., 25 mg. per ml.

Photographs and clinical data by courtesy of R. I. Lowenberg, M. D., Consultant in Vascular Surgery, Connecticut State Hospital, Middletown, Connecticut.

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Steatorrhea Reduction

Cortisone or ACTH therapy may effect improvement in some individuals with steatorrhea. Dr. Ernst J. Drenick and associates of the Veterans Administration Center, Los Angeles, report that fat balance studies of 4 patients with steatorrhea indicate that such improvement results from general metabolic restoration rather than from an increase in the absorptive capacity of the intestine. Cortisone or ACTH therapy does not modify steatorrhea due to pancreatic insufficiency or to partial gastrectomy. Patients with intestinal malabsorption of fat secondary to chronic ileojejunitis or to nontropical sprue are benefited by ACTH or cortisone therapy. New England J. Med. 253:303-308, 1955.

Allergic Potency of Vaccine

Poliomyelitis vaccine of the Salk type apparently does not provoke significant sensitivity reactions when administered to persons allergic to animal protein or to penicillin. Intracutaneous tests or subcutaneous injections of the undiluted vaccine induce only a few slight delayed reactions in individuals with allergic rhinitis, asthma, or penicillin sensitivity, reports Dr. Sheppard Siegal of the Mount Sinai Hospital, New York City. Tests in passive transfer sites previously sensitized with the serum of a patient anaphylactically sensitive to penicillin show that the penicillin content of the poliomyelitis vaccine is probably less than 0.5 units per cubic centimeter.

Am. J. Pub. Health 45:791-792, 1955.



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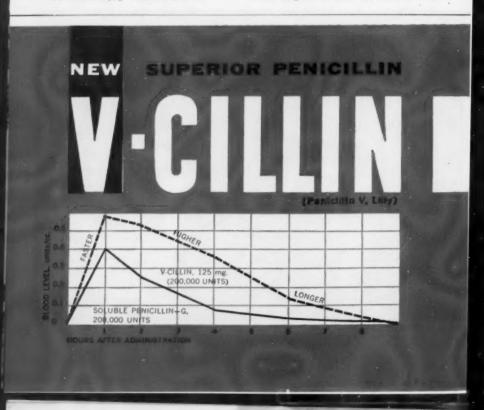
Clorpactin WCS-90 appears to exert powerful germicidal, fungicidal, and virucidal properties without producing the toxic or irritating effects of elemental chlorine. Topical solutions of 0.2% Clorpactin were effective in the treatment of globus hystericus associated with local inflammation, aphthous stomatitis, oral antral fistulas, and other lesions in 642 otolaryngologic patients, reports Dr. Martin Zwerling of the Southside Hospital, Bay Shore, N.Y. Clorpactin is apparently nonspecific in its antibacterial action and produces no untoward side effects. No resistant strains of bacteria are observed after extended use of the antiseptic.

Arch. Otolaryng. 62:157-158, 1955.

Blockage of Radioiodine

Vitamin-mineral preparations containing iodine may cause unexpectedly low values of radioiodine uptake in tracer studies. Drs. Lawrence A. Kohn and Edna B. Nichols of the University of Rochester, N.Y., report that at least 16 mineral-vitamin supplements sold without prescriptions contain amounts of iodine which could possibly block radioiodine uptake in some individuals, although individual and dietary variations affect response. Blocking during drug intake may interfere with diagnostic tests using radioiodine. Patients usually recover pretreatment amounts of uptake when ingestion of the vitamin-mineral compounds is stopped.

New England J. Med. 253:286-287, 1955.



Causes of Gastric Ulcer

Pyloric stenosis in dogs leads to a significant and prolonged increase in gastric secretory activity which occasionally results in gastric ulceration. After pyloric stenosis and subsequent hypersecretion, gastric ulcer developed in 1 animal, report Dr. Stanley P. Rigler and associates of the University of Chicago, Hypermotility of the stomach and prolonged contact of the antrum mucosa with food as a result of pyloric obstruction probably stimulate abnormal liberation of gastrin from the pyloric antrum. Since the increase occurs in vagus-denervated Heidenhain pouches, the hypersecretion is apparently due to hormonal or humoral mechanisms. Arch. Surg. 71:191-195, 1955.

Bone Transplants

Autogenous iliac bone appears to be the best material for bone grafts in ulnar defects of rabbits. Dr. Robert S. Siffert of the Mount Sinai Hospital, New York City, reports that callus or fragments of homogenous bone also encourage newbone formation but shave grafts of tibial bone induce osteoclastic and fibroplastic reactions which impede healing. Transplants apparently serve primarily as a scaffolding for bone growth from the endosteum and periosteum of the bone ends of the host site and do not directly stimulate osteogenesis. Survival of grafts, which is dependent upon revascularization of the graft bed, is unimportant for over-all healing. J. Bone & Joint Surg. 37-A:742-758, 1955.

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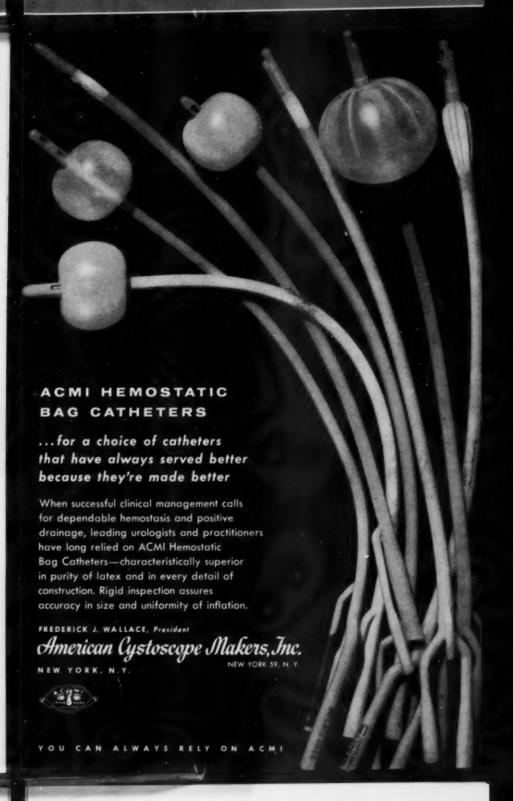
Section of the sphincter of Oddi in cats appears to reduce the incidence of histamine-induced peptic ulceration. Dr. Norman Rosenberg of St. Peters General Hospital, New Brunswick, N.J., reports that after sphincterotomy combined with pyloroplasty, definite ulcers of the stomach were observed in only 3 of 10 animals given daily injections of histamine: no acute duodenal ulcers were noted. Duodenal ulcers were present in 7 and gastric ulcer in 3 of 10 cats after pyloroplasty alone. Sphincterotomy apparently does not cause cholangitis or cholangiolitis, but may induce hypertrophy of the pancreas.

Arch, Surg. 71:246-248, 1955.

ACTH Secretion Inhibition

Of nontoxic corticoids now available, metacortandracin (prednisone) appears to be the most effective in inhibiting ACTH secretion in patients with adrenocortical hyperplasia, although hydrocortisone and cortisone are also effective. Given as oral preparations to patients with the adrenogenital syndrome, the hormones suppress ketosteroid excretion, reestablish regular menstrual cycles, increase breast size, and decrease hirsutism, report Dr. Herbert S. Kupperman and associates of the New York University and the Bellevue and Beth Israel hospitals, New York City. Although ACTH secretion is also depressed by administration of 9-alpha-fluorohydrocortisone, effective doses generally induce fluid retention and edema.

J. Clin. Endocrinol, 15:911-922, 1955.



Glucagon Hyperglycemia

Blood sugar is apparently raised in healthy and in diabetic individuals by injections of glucagon, but the degree of response differs. Dr. Douglas Hubble of the Derbyshire Royal Infirmary, Derby, England, finds that blood sugar levels of healthy persons rise by 73 to 100% thirty minutes after intravenous administration of glucagon. In insulin-sensitive, young, labile diabetics and sometimes in obese or elderly diabetics, the response to glucagon is less and return to fasting blood sugar levels is erratic. The degree of hyperglycemia depends on the amount of glycogen in the liver: eating before glucagon injection enhances hyperglycemia.

Diabetes 4:197-202, 1955.

Potentiation of Primaquine

The curative action of primaquine in treatment of vivax malaria seems to be potentiated by concurrent administration of quinine or Aralen. Dr. Alf S. Alving and associates of the University of Chicago report that cure rates for patients with Chesson strain malaria were 21% for patients treated with quinine followed by primaquine, 95% for those treated with quinine and primaguine concurrently, and 74% for those treated with Aralen and primaguine concurrently. Since the cure rate for quinine followed by primaquine represents the simple additive effect of the drugs, the higher cure rates produced indicate synergistic action.

J. Lab. & Clin. Med. 46:301-306, 1955.



Thorotrast Carcinogenesis

The latent radiation effects of the contrast medium. Thorotrast, appear to increase the incidence of liver, spleen, and lung tumors in mice. Degenerative changes or reticuloendotheliomas of the liver, hemangio-endotheliohepatomas. mas of the spleen, and lung tumors are observed in association with Thorotrast deposits, find Dr. J. P. Guimaraes and associates of the Royal Marsden Hospital, London. The association of Thorotrast particles and aberrant growth and the rarity of neoplasms in untreated animals suggest a causal relationship between malignant growths and Thorotrast, probably through action directly on the cells.

Brit. J. Cancer 9:253-267, 1955.

Capillary Changes

Characteristic peripheral vascular changes may be observed in hypertensive patients. In patients with essential hypertension or hypertension associated with Cushing's syndrome. examination of the capillary bed of the bulbar conjunctiva shows narrowed arterioles, relatively few patent capillaries, and coiling, tortuosity, and elongation of venular capillary segments, reports Dr. Richard E. Lee of the Cornell University-New York Hospital Medical Center, New York City. In contrast, capillary beds of patients with hypertension caused by pheochromocytoma show less vasoconstriction and no coiling or elongation of the capillaries.

Am. J. Med. 19:203-208, 1955.

REFRACTORY SUB-ACUTE AND CHRONIC DERMATOSES RESPOND TO TARCORTIN

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Bioassay of the urinary excretion of epinephrine and norepinephrine provides a rapid screening method for the detection of pheochromocytoma. Changes in the blood pressure of cats after injection of 0.5 cc. of untreated urine reveal elevated pressor amine levels, report Drs. R. Moulton and D. A. Willoughby of the University College Hospital Medical School, London. Borderline values of 100 to 150 µg. of the amines per twenty-four hours require repeat assays.

Lancet 269:16-18, 1955.

Discoloration of Nails

Yellow-orange stains may develop on lacquered nails exposed to resorcinol or Euresol (resorcinol monoacetate). Discoloration is produced when either substance is applied to nails lacquered with one of several commercial brands of colored or colorless enamels, including hypoallergenic types, report Drs. A. B. Loveman and M. T. Fliegelman of the University of Louisville. Frequent application of the resorcinol compounds apparently does not induce noticeable pigmentation of unlacquered nails.

Arch. Dermat. & Syph. 72:153-156, 1955.

Tumor Inhibition

Removal of the pituitary gland appears to reduce the incidence of sarcomas in adult rats given intramuscular implants of 3-methylcholanthrene. Drs. Henry D. Moon and Miriam E. Simpson of the University of California, Berkeley, report that over 50% of animals with intact pituitary glands but fewer than 15% of hypophysectomized animals develop sarcoma at the site of implantation. Inhibition of the carcinogenic response may be related to the generally lowered level of growth and development of hypophysectomized animals.

Cancer Res. 15:403-406, 1955.

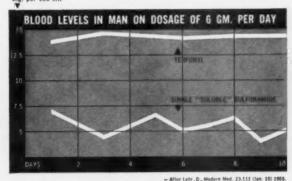


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In clinical use, Steclin has produced an extremely low incidence of the gastrointestinal distress sometimes observed with other broad spectrum antibiotics. Mycostatin (Squibb Nystatin), as contained in MYSTECLIN, is also a particularly well tolerated antibiotic and has produced no allergic reactions, even after prolonged administration.

broad spectrum antibiotic therapy, without the danger of monilial overgrowth

Because it contains Mycostatin, the first safe antifungal antibiotic, MYSTECLIN effectively prevents the overgrowth of Candida albicans (monilia) frequently associated with the administration of ordinary broad spectrum antibiotics. This overgrowth may sometimes cause gastrointestinal distress, anal pruritus, vaginitis, and thrush; on occasion, it may have serious and even fatal consequences.



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Ointment

SQUIBB FLUDROCORTISONE ACETATE WITH SPECTROCIN (SQUIBB NEOMYCIN-GRAMICIDIN)

the anti-inflammatory, antipruritic action* of FLORINEF -much more potent than that of topical hydrocortisone



the prophylactic action* of SPECTROCIN-effective against many gram-positive and gram-negative organisms

*"... secondary infection with pustulation often follow scratching which is induced by the intense itching."
Nelson, W. E.: Textbook of Pediatrics, ed. 5, Philadelphia, W. B. Saunders Company, 1950, p. 1516.

Supply: Florinef-S Lotion, 0.05 and 0.1 per cent, in 15 ml. plastic squeeze bottles. Florinef-S Ointment, 0.1 per cent, in 5 gram and 20 gram collapsible tubes.

Also available: Florinef Lotion, 0.05, 0.1 and 0.2 per cent, in 15 ml. plastic squeeze bottles. Florinef Ointment, 0.1 and 0.2 per cent, in 5 gram and 20 gram collapsible tubes.

"FLORINEF-S", "FLORINEF" AND "SPECTROCIN" ARE SQUIDE TRADEMARKS

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most widely prescribed
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for adults



proved effectiveness



convenient dosage



economical for patient Bottles of 12 and 100

CAPSULES

for infants & children



open and add soluble penicillin to fruit juice



... cola, ginger ale, etc.



. . milk or formula Bottles of 24 and 100

EITHER WAY IT'S PENICILLIN T. I. D.

SQUIBB

new, improved

Steclin Suspension



- Ready-to-take-requires no reconstitution
- An aqueous suspension-contains no oil, eliminating completely any hazard of lipoid pneumonia
- Can be administered by dropper or teaspoon
- Pleasant, neutral flavor-if desired, can be mixed with vehicle of patient's choice (formula, orange juice, milk, cola, or similar liquid). It should then be taken promptly.
- Free-flowing-easy to pour and measure
- Will not form a heavy precipitate at bottom of bottle
- Stable for 18 months at room temperature
- Therapeutic blood levels within one hour

DOSAGE: Children, the usual daily dosage is 10 to 20 mg. per pound of body weight, in divided doses, depending upon the type and severity of the infection. For adults, the suggested minimum dose is 250 mg. q.i.d.; higher dosage may be required in severe infections or in patients who do not respond to smaller doses.

SUPPLY: 1 ounce bottles, supplied with dropper calibrated at 1 ml. Each 5 ml. teaspoonful contains the equivalent of 250 mg. tetracycline hydrochloride. Each 1 ml. dropperful contains the equivalent of 50 mg. tetracycline hydrochloride.

SQUIBB A LEADER IN ANTIBIOTIC RESEARCH AND MANUFACTURE

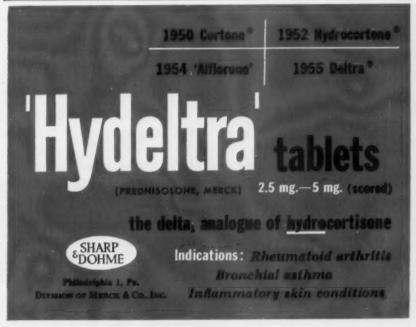
Eye Changes from Radiation

A definite pattern of clinical and histologic alterations occurs in the eye when the head region of a monkey is exposed to 10,000-r doses of gamma radiation. Dr. David V. L. Brown and associates of the School of Aviation Medicine, Randolph Field, Tex., report that changes in the eyes of the animals occur only if the head region is exposed and are similar whether radiation is received by the head alone or by the entire body. Conjunctival vasodilation, retinal opacification, severe hypotony, or, occasionally, retinal hemorrhage may be observed within forty-eight hours after therapy; pyknosis of the rod nuclei is complete in eight hours. Arch. Ophth. 54:249-256, 1955,

Correction of Valve Defect

A spherical prosthesis affixed to the myocardium under the posterolateral valve appears to correct mitral insufficiency in dogs. The smooth Plexiglas ball is introduced through the auricle to the ventricle, placed in position under the posterolateral valve, and fastened in place by a lock-nut system. Drs. Roger Benichoux and Pierre Chalnot of the Central Hospital, Nancy, France, report that foreign body reactions to the ball are not observed after twenty-three months in situ; vascular connective tissue proliferation over the sphere reduces the likelihood of thrombi or emboli formation. The prosthesis partially occludes the area of regurgitation.

J. Thoracic Surg. 30:148-158, 1955.



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WITH ONE PENTRITOL TEMPULE*

*30 mg. Pentaerythrital Tetranitrate in a controlled disintegration capsule.

DAY LONG CONTROL- NIGHT LONG SLEEP Write for Samples and Literature.

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Cleanses, soothes in vulvitis, pruritus, excoriated buttocks in infants-

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practice-proven in hypertension /eratrite° IRWIN NEISLER & COMPANY DECATUR ILLINOIS . TORONTO I. ONTARIO

Survival of Dermatophytes

The foot skin generally appears to have the capacity to destroy or to inhibit pathogenic dermatophytes. In 12 of 22 persons no fungi were seen microscopically or recovered in cultures twenty-four hours after large masses of fungi were rubbed onto circumscribed areas of the feet, report Dr. Rudolf L. Baer of New York University, New York City, and associates. Fungus was demonstrated in only 1 subject fifteen days after the experimental exposure.

J. Invest. Dermat. 24:619-622, 1955.

Soybean Antigenicity

Inhalation of soybean dust or parenteral injections of soybean extracts are only weakly anaphylactogenic for guinea pigs. Drs. Bret Ratner and Lloyd V. Crawford of the New York Medical College, New York City, report that even multiple sensitizing injections or repeated exposure to soybean inhalants does not greatly increase sensitization.

Ann. Allergy 13:289-295, 1955.

Solution to Crossword

D	2 E	3 AA	4 1	5 C		60	п	10	8 8	9 E	105	116
120	C	U	L	0		5		13 _R	A	D	1	A
14 _L	0	5	E	R		M		15 _F	E	D	E	S
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20 _R	D				21 _A	c	T				22 _E	S
			23 _A	24 B		5		25 V	26 A			
27 _T	н	E	N	A	R		28 _V	1	L	L	U	5
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120	²² D			-	³⁴ 0	R	35 _D				36 _A	375
Bp .	A	39 _C	40 _K .		41 L	E	A		42 p	43 E	L	T
14,	N	A	N	45 E		S		46 _F	0	R	c	E
¹⁷ U	C	K	0	5		0		48 _A	R	0	М	A
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SHORT REPORTS

Progestational Effect

A recently synthesized agent, 17alpha - hydroxyprogesterone - caproate, appears to have more prolonged progestational activity than does pure progesterone. Drs. M. Edward Davis and George L. Wied of the University of Chicago and the Chicago Lying-in Hospital report that injection of 350 mg. of the caproate compound after initial administration of estradiol-valerate induces uterine bleeding from a secretory endometrium within fourteen to nineteen days. Bleeding from a practically nonsecretory endometrium is evident about one week after administration of an equal amount of pure progesterone to the patient.

J. Clin. Endocrinol. 15:923-930, 1955.

Adrenalectomy for Diabetics

Total bilateral excision of the adrenal glands seems to cause regression or inhibition of degenerative vascular lesions in some patients with diabetes, Drs. James W. Headstream and James T. Wortham of the University of Arkansas, Little Rock, find that adrenalectomy may improve visual acuity, induce a sense of well-being, and decrease insulin requirements when performed during the early stages of the arteriolar degenerative disease for patients with twenty-four-hour urinary protein values of less than 5 gm. Postoperative 25- to 50-mg. doses of cortisone daily give freedom from symptoms of adrenal insufficiency.

J. Urol. 74:1-7, 1955.



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non-narcotic cough control



easy to give-easy to take

drop dosage 2 to 4 drops do the work of spoonfuls of syrup

Diatussin: 6-cc. bottle with dropper Diatussin Syrup: 4-ca., pint and gallon bottles

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A BETTER, SAFER CLEANSER THAN SOAP!

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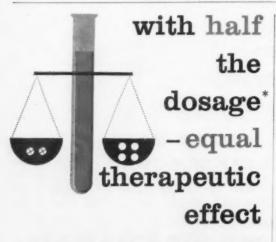
Safe Antiarrhythmic Agent

Ambonestyl appears to have some advantages over procaine amide or quinidine for the control of ventricular arrhythmias. Unlike the other antiarrhythmic drugs, Ambonestyl (2-diethylaminoethyl-isonicatinamide) does not depress cardiac conduction, elevate ventricular electrical threshold, or produce significant hypotension or local anesthesia, report Drs. Byron B. Clark and Benjamin Etsten of Tufts University, Boston. Premature ventricular contractions and bigeminal rhythms are controlled by 0.5-gm. doses injected intravenously at tenminute intervals. A total of 3 gm. may be required. A transient fall in blood pressure occurs after therapy. New England J. Med. 253:217-223, 1955.

Ulcerogenic Compound

Prolonged intramuscular administration of Butazolidin apparently induces gastroduodenal erosions and ulcerations in healthy and in adrenalectomized dogs. In 7 of 8 intact and in 2 of 3 adrenalectomized animals gastroduodenal lesions were found after injections of 3.6 to 35.2 gm. of the drug for periods of ten to one hundred and three days, report Drs. Joseph B. Kirsner and Harold Ford of the University of Chicago. Oral Butazolidin temporarily increases basal gastric secretion but intramuscular injections of the drug do not. Effect of Butazolidin may be stimulating in the absence of the cephalic and gastric phases of secretion.

Gastroenterology 29:18-23, 1955.



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SAFE, SOLUBLE, BROAD-SPECTRUM SULFONAMIDE

TABLETS 0.5 Gm. (White, double-scored) SUSPENSION IN SYRUP 0.25 Gm. per 4-ml, teaspoonful CIBA

*Elkosin maintains effective blood levels, both in urinary and systemic infections, with standard (i.e., sulfadiazine) dosage, or approximately half the dosage required with the other widely used single-soluble sulfonamide. This means extra safety, and greater convenience and economy.

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Urethritis

Treatment with Furacin Urethral Suppositories "does away with the pain of urethral dilatations and silver nitrate applications. Symptomatic improvement has been noticed as early as 1 day after beginning treatment, and the average period of treatment is 13 days. The patient can easily use the medication at home herself."*

*Youngblood, V. H.; J. Urol. 78; 926, 1953.







Illustrations from . . . the new patient folder and office instruction card which show how to easily insert Furacin Urethral Suppositories. Write for your supply.

new ...

effectiveness in treatment

of Urethritis

Of 40 cases of nonspecific urethritis, 40 were entirely symptom-free or improved.

"The results showed that twenty-eight were entirely symptom-free at the end of the treatment and twelve improved. Many of the patients who were improved probably could have been termed cured had they been seen again. The urethra by endoscopic examination in every case was improved, though there was no close parallelism with the symptoms." **

Furacin Urethral Suppositories contain Furacin 0.2% and 2% diperodon•HCl (an efficient local anesthetic) in a water-miscible base.

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309

SHORT REPORTS

Ischemic Ulcer Treatment

Sanguinin, a bovine blood derivative, appears to stimulate granulation tissue and hasten epithelization when used in treatment of ischemic ulcers. Dr. J. Fred Mullins and associates of the University of Texas, Galveston, report that, in 14 of 15 patients who had had extensive ulcerations of the lower leg for ten to thirty years, excellent results were obtained by daily applications of Sanguinin powder to the wound after the ulcerated area was cleaned with hydrogen peroxide. Feasibility of skin grafting is increased by the production of exuberant granulating areas. Results are not favorable when stasis is a factor.

Texas State J. Med. 51:507-508, 1955,

Hypothermia for Hepatectomy

Reduction of body temperatures in dogs permits occlusion of the afferent hepatic artery to provide a relatively bloodless field for resection of the liver. Only 2 of 47 dogs cooled by ice-water baths to body temperatures of 24 to 27° C. died after occlusion of the hepatic artery for one hour, report Dr. William F. Bernhard and associates of Harvard University, Boston. An equal period of hepatic ischemia produces death in all normothermic animals. The reduction in total body metabolism concomitant with hypothermia also lessens the amount of anesthetic. Hypothermia seems superior to hypotensive technics as an anesthetic adjunct.

New England J. Med. 253:159-164, 1955.



An effective and agreeable way to give penicillin...

Penalev.

SOLUBLE TABLETS CRYSTALLINE POTASSIUM PENICILLIN G

MAJOR ADVANTAGES: Six dosage strengths for maximum flexibility of dosage. Ideally suited to pediatrics—in rheumatic fever prophylaxis, and wherever oral penicillin is indicated. Tablets dissolve readily in water, milk, juices, infant formulas.

Supplied. Soluble Tablets of 50,000, 100,000, 200,000, 250,000, 500,000 and 1,000,000 units of potassium penicillin G.



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MERCK & CO., INC.

310 MODERN MEDICINE, October 15, 1955



 Lange, K., and Weiner, D.: J. Invest. Dermat. <u>12</u>:263 (May) 1949. Baume Bengué

Available in both regular and mild strengths.



Our Office Nurse

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent \$5. The Oct. 15 winner is

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Mail your caption to
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No. 3
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"I said that the curves in her spine tingled, not that she had spine-tingling curves!"

Serpasil

Elixir

Sedation without hypnosis

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"EET ALL BEGAN BY BITING ON ZE FINGERNAILS _BUT ZEN, ZAT WAS BEFORE SERPASIL!"

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Especially indicated for Old People and Children

Highly compatible vehicle

New SERPASIL ELIXIR is compatible with Pyripenzamine Elixir, dextro-amphetamine sulfate slixir, Antrenyle Syrup, codeine phesphate ephedrine sulfate, sodium esticylate and many other medications. Serpasil Elixir has a clear light-green solor-and a pleasant lemen time flavor. Each 4-mi. teaspoonful centains 0.2 mg. of Serpasil.



A gentle laxative modifier of milk. One or two tablespoonfuls in day's formula—ar in water for breast fed babies—produce marked change in steel. Send for samples. BORCHERDT MALT EXTRACT CO.

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Patients . . . I have met

The editors will pay \$1 for each story published. No contributions will be returned. Send your experiences to the Patients I have Met Editor, MODERN MEDICINE, 84 Editor, MODERN MEDICINE, 84 South Tenth St., Minneapolis 3, Minn.

Misinterpretation

When a village doctor told a backwoods woman to bring in a sample of her water, she returned a few days later with a jug of water from her well.-C.M.

Like Father . . .

A small boy came in for a preschool examination.

"Doctor, did I come from mon-

keys?" he asked.
"Hush!" interposed his mother. "The doctor can't answer that. He's never investigated your father's background."-G.S.



"Boy, I've never seen such a guy for luck!"

314 MODERN MEDICINE, October 15, 1955

Facts on perineal hygiene for your women patients

Told in new booklet, written by a noted gynecologist, published by The B. F. Goodrich Company.

A SCIENTIFIC article on perineal hygiene is now being packed with every B. F. Goodrich gravity-flow syringe. The information in it is the type rarely published except in medical journals.

Purpose of distributing the booklet is to assist busy physicians in the dissemination of basic principles of perineal care. It's the belief of the author of the article that "because of the busy practices physicians have developed since World War II, not more than 1 of 1,000 women, visiting their physicians with a female complaint, ever learn these fundamentals."

The author, a specialist in obstetrics and gynecology on the staff of a leading American hospital, is nationally known to physicians as author of many articles printed in Modern Medicine.

Instructions are practical, easy to understand. Yet as the article warns, "... are not meant to replace a visit to your physician," but to give the general information you would want your patients to have before giving specific instructions.

Proper douching. At some time in almost every woman's life, it becomes necessary to douche, either from choice, or upon the advice of a physician. One part of the article

tells how to douche and explains why, where to do it, what position to take, exactly how to operate a syringe, what solution to use when the physician has not advised a certain medication.

The type of syringe. "By preference," says the author, "the douche container should be a rubber bag of good quality and the 2-quart size. It should be equipped with an ample length of rubber tubing and, for shutting off the flow of water, there should be a metal clasp on the tubing several inches above the douche tip or nozzle."

All B. F. Goodrich gravity-flow syringes meet these specifications. They come in three styles: the wide, flat fountain syringe that hangs from a hook and is open at the top; the folding syringe that comes in a little waterproof case for carrying in a traveling bag, and the combination syringe, made of a hot-water bottle hanging upside down with syringe fixtures below.

A copy of this informative article on feminine hygiene is being mailed to you. After reading it, we feel sure you will approve of everything it says, subject, of course, to your specific advice in special cases.

All a woman has to do to get the booklet is ask at her drug store for a B. F. Goodrich gravity-flow syringe.

B. F. Goodrich

Gravity-Flow Syringes

skin troubles

Marcelle Hypo-Allergem Cosmetics were designed for the man who needs something different from the average. Thousands of women with cosmetic or skin problems have found these delicately compounded beauty preparations notably safe even for sensitive skins because known irritants have been eliminated from Marcelle Cosmetics.

Marcelle's entire line of more than 40 different beauty preparations in a complete range of high fashion shades is available in either scented or unscented form.

The original Hypo-Allergenic Cosmetics. First to be accepted by the Committee on Cosmetics of the American Medical Association.

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COSMETICS
For Sensitive and Allergic Skin
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Inc. Johnstown, N. Y.

No Bargain

The pharmacist was politely interested in the man who entered the drugstore with a had cough.

drugstore with a bad cough.
"A bad cold, Mr. Smith? Can I offer you anything for it?"

No thanks," replied Mr. Smith, "you may have it for nothing if you wish."—L.B.

Whether health or wealth is the greater blessing depends on which one you don't have.—B.C.

Emergency

A doctor received a phone call from a friend inviting him to come over and be the fourth at bridge. His wife sympathectically asked him if he had to go out.

"I'm afraid so," replied the doctor. "It sounds like a very important case, 3 doctors are there already."—C.M.



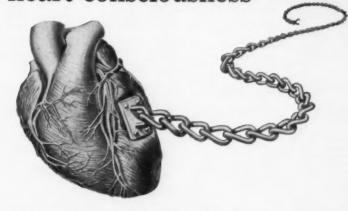
Unpalatable Dish

I dropped by to see an old patient of mine who was now confined to a mental institution. She explained to me that she was there because she preferred shoes to boots.

"But many people prefer shoes to boots," I exclaimed. "In fact, I do myself."

"Boiled or barbecued?" she asked.— B.P.S. in your anginal patient...

break the chain of "heart-consciousness"



Your <u>anginal patient</u> can be freed from his "heart-consciousness" for a wider range of activities by the daily administration of Nitralox which aids in protecting him against the bodily and emotional factors which so often precipitate anginal seizures. Nitralox generally lessens the frequency and severity of attacks, will often lower nitroglycerin requirements, increase exercise tolerance and improve the electrocardiogram.

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Nitralox combines a coronary vasodilator with prolonged action (10 mg pentaerythritol tetranitrate—PETN) with a nonbarbiturate tranquillizing and bradycrotic agent (1 mg. purified mixed Rauwolfia alkaloids—the alseroxylon fraction) and is intended for long-term prophylactic therapy. While some patients experience beneficial effects within 24-48 hours, it takes about two weeks before Nitralox produces its full effect from the recommended dosage of 1-2 tablets q.i.d. before meals, and at bedtime.

NITRALOX

for long-range management of anginal attacks

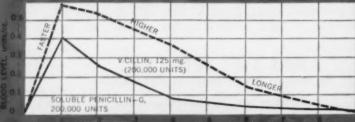
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faster, higher, longer blood levels on oral administration

A totally different penicillin—not a modification of penicillin—G. Unlike all other penicillins, it has a unique chemical composition which assures stability in the presence of acid. Therefore, there is no loss of potency due to stomach acidity. 'V-Cillin' produces higher blood levels and a longer duration of therapeutic concentrations. It is rapidly absorbed from the duodenum.

dosage: 1 or 2 pulvules t.l.d.

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When DIARRHEA proves

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ONNAGEL Robins (Donnatal with Kaolin and Partin Campsund)



Its unique formula comprehensively embraces the gastrointestinal adsorbents and detoxicants kaolin and pectin, with the proven spasmolyticsedative properties of 'Donnatal', and the superior antacid action of dihydroxy aluminum aminoacetate... in a highly palatable suspension,

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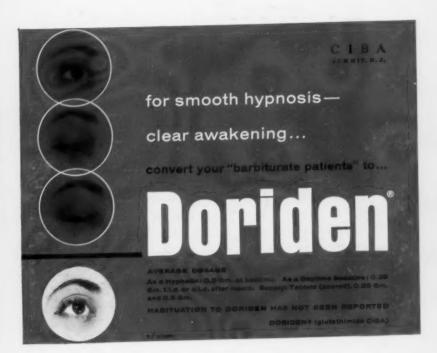


- In hypertension, management can now be started in the earliest stages . . . to retard progression, with the goal of prolonging useful life.
- Fully one half of all cases of mild, labile hypertension can be controlled with simple Rauwiloid therapy.
- Rauwiloid accomplishes what mere sedation cannot ... the patient is spared the reaction to tension situations without somnolence, without clouded sensorium, without change in alertness.
- The feeling of well-being engendered by Rauwiloid may become manifest as soon as 24 to 48 hours after the first dose. Its antihypertensive effect becomes apparent in two to three weeks.
- In the face of tension-producing stimuli, Rauwiloid, through its sedative and bradycrotic properties, provides tranquil equanimity.
- Its dosage schedule is uncomplicated, definite, easy to follow: Merely 2 tablets at bedtime. For maintenance, 1 tablet usually suffices. No contraindications.

Rauwiloid First Thought IN HYPERTENSION



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